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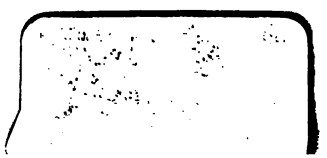

NARRATIVE

OF

THE UNITED STATES EXPLORING EXPEDITION.

CHARLES WILKES, U.S.N.

Commander of the Expedition.

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THE UNITED STATES EXPLORING EXPEDITION,

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BRADBURY AND EVANS, PRINTERS, WHITEFRIARS.

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NARRATIVE OF

THE

UNITED STATES EXPLORING EXPEDITION.

CHAPTER I.

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MADEIRA.

Departure from the United States—Voyage to Madeira—Arrival at Funchal—Appearance of Madeira from the Sea—Landing at Funchal—Visit to the Civil and Military Governors—Streets, and Mode of Transportation—Criminals and Prisons—Rides in Madeira—Curral—Population of Madeira—Wine—Government Character of the Inhabitants—Dress—Dwellings—Mode of Travelling—Employments of the People—Wine-making—Lower Classes—Natural History—Quinta of Mr. Bean—Departure from Madeira.

HE command of the Exploring Expedition devolved upon me, by orders from the Hon. Mahlon Dickerson, then Secretary of the Navy, on the 20th of March, 1838.

On the 17th of August I received my sailing instructions, and final orders to put to sea the moment I was ready; and on the 18th we sailed. Our squadron was composed of the following vessels. The Vincennes, a sloop of war, of 780 tons; the Peacock, a sloop of war, of 650 tons; the Porpoise, a gun-brig, of 32 tons; the tender Sea-Gull, of 110 tons; the tender Flying-Fish, of 96 tons; and the Relief, a new vessel, originally intended as a store-ship for the navy.

Orders were given to rendezvous, in case of separation, at Madeira. It was soon found, in the trial of the sailing qualities of the vessels, that the Relief was unsuited to act with the rest without

great detention, and after four days I determined to part company with her, giving her orders to proceed to the Cape de Verdes.

On the 25th of August our winds became favourable, and we were enabled to lay our course towards Madeira. I continued to keep the direction of the Gulf-stream towards the Western Islands. We felt its influence until we reached the longitude of 48° W., and found it to set for the last few days to the northward of east. The winds had been light and the sea smooth, indicating no other impulse than the flow of the stream. The temperature gradually decreased from 83° to 75°.

On the night of the 26th we parted company with the Peacock and Flying-Fish in a squall, and did not again meet them until we reached Madeira. The 5th of September, being near the reported shoal of St. Anne, I determined to pass over its position.

On the 6th we passed over it, the sea was smooth, the horizon clear, and the day beautiful. At eight A.M. the look-out cried out, "Rocks or a wreck on the starboard bow!" which at once created an excitement on board. We stood for it. It had at first every appearance of a rock, then that of a wreck with the masts gone. It proved, however, to be a large tree of cotton-wood, one hundred and twenty feet in height, and fourteen feet in circumference at the height of five feet above the roots. It had been a long time in the water, was full of barnacles, and much eaten by the Teredo navalis. Great quantities of fish were about it, consisting of dolphins, sharks, &c. We did not, however, succeed in taking any. In rough weather it might easily have been mistaken for a rock, particularly if passed in twilight, or at night.

On the 15th, as we were making sail, George Porter, one of our maintop-men, in loosing the top-gallant sail, was caught by the bunt-line, and dragged over the yard, where he was seen to hang, as it were quite lifeless, swinging to and fro by the neck.

On the alarm being given, two men ran aloft to his assistance. It now became doubtful on deck whether they would not be all dragged over by the weight of his body, until several others gave assistance and relieved them. It caused a breathless anxiety to us all to see a fellow-being in the momentary expectation that he would be dashed to the deck. He was fortunately rescued, and brought below, yet living. Here he speedily came to his senses, and recollecting that the drum had rolled to grog just before his accident, he, sailor-like, asked for his portion. It was truly a providential escape. This young man died on our way home, in the China seas, of an inflammatory fever.

On the 16th we made the island of Madeira, and having a strong westerly wind, I determined to pass to Funchal, on its southern side. This may be done at this season, but vessels bound to that port usually prefer going round the eastern point of the island. When off the western point of Madeira, we experienced a very long, heavy swell, which gave me an opportunity of trying the velocity of the waves, by noting the time the same wave was passing between the vessels. The result gave twenty-three miles per hour, but I was not altogether satisfied with it. It was difficult to

measure the correct angle subtended by the Porpoise's masts for the distance, on account of the motion of both vessels. The measurement of the height of the waves I found still more difficult, and the results varied too much to place confidence in them, principally owing to each succeeding swell or wave being less than the preceding one. The different observations gave from twenty-five to fourteen feet; the width of the wave, from the same cause, was equally variable, and each successive result varied from that which preceded it.

Before sunset we cast anchor in company with the Porpoise and Sea-Gull, and were the next morning joined by the Peacock and Flying-Fish.

Shortly after coming to anchor, we were boarded by the health officer, with the captain of the port, who, on being assured of our good health, gave us permission to land. The United States' consul, Henry John Burden, Esq., also came on board, and kindly offered us all the attention that lay in his power.

The first appearance of Madeira did not come up to the idea we had formed of its beauties from the glowing description of travellers. It exhibited nothing to the distant view but a bare and broken rock, of huge dimensions, which, though grand and imposing, is peculiarly dark and gloomy, and it was not until we had made our way close under the land, that we could discover the green patches which are everywhere scattered over its dark red soil, even to the tops of the highest peaks.

The mountain verdure was afterwards discovered to be owing to groves of heath and broom, which grow to an extraordinary height, aspiring to the stature of forest trees. In addition to these groves, the terraced acclivities, covered with a luxuriant tropical vegetation, change on a closer approach its distant barren aspect into one of extreme beauty and fertility.

The most striking peculiarity in the mountain scenery is the jagged outline of the ridge, the rudely shaped towers and sharp pyramids of rock, which appear elevated on the tops and sides of the highest peaks as well as on the lower elevations, and the deep, precipitous gorges, which cut through the highest mountains almost to their very base.

The shores of the island are mostly lofty cliffs, occasionally facing the water with a perpendicular front one or two thousand feet in height. The cliffs are interrupted by a few small bays, where a richly cultivated valley approaches the water between abrupt precipices, or surrounded by an amphitheatre of rugged hills. These narrow bays are the sites of the villages of Madeira.

As we sailed along from its western end, we occasionally saw, in these quiet and peaceful situations, small white-walled villages, each with its little church at the outlet of the gorges. We were particularly struck with that of the Camera de Lobos, a few miles to the westward of Santa Cruz hill. This is the largest, and is the most interesting of any, from its having been the first point settled by Europeans. The high precipices were new to us Americans: so different from what we are accustomed to in the United States.

The scene was still more striking, and our attention was more forcibly arrested, when passing under cliffs of some sixteen hundred feet above us. We were so near them that the sound of the surf was distinctly heard. The whole effect of the view was much heightened by a glowing sunset in one of the finest climates in the world.

Off the eastern cape of the island, many isolated rocks were seen separated from the land, with bold, abrupt sides and broken outlines. The character of these rocks is remarkable; they stand quite detached from the adjoining cliffs, and some of them rise to a great height in a slender form, with extremely rugged surfaces and broken edges. Through some, the waters have worn arched ways of large dimensions, which afford a passage for the breaking surf, and would seem to threaten ere long their destruction.

Similar needle-form rocks are seen off the northern Deserta, an island lying some miles east of Madeira. One of them is often mistaken for a ship under sail, to which when first seen it has a considerable resemblance. It stands like a slender broken column, several hundred feet in height, on a base scarcely larger than its summit.

Funchal has a very pleasing appearance from the sea, and its situation, in a kind of amphitheatre formed by the mountains, adds to its beauty. The contrast of the white buildings and villas with the green mountains, forms a picture which is much heightened by the bold quadrangular Loo Rock, with its embattled summit commanding the harbour in the foreground.

The island throughout is rough and mountainous, but the steeps are clothed with rich and luxuriant verdure. Terraces are visible on every side, and every spot that the ingenuity of man could make available has been apparently turned to advantage, and is diligently cultivated. These spots form an interesting scene, particularly when contrasted with the broken and wild background, with the white cottages clustered at the sea-shore, and gradually extending themselves upwards until the eye rests on the highest and most striking building, that of the convent of Nostra Señora de Monte.

Through the western half of the island runs a central ridge, about five thousand feet high, on which is an extensive plain, called Paul de Serra, which is mostly overgrown, and is used especially for breeding mules and horses. The eastern portion of the island, though quite elevated, is less so than the western.

The valleys usually contain a strip of land of extreme fertility, through which winds the bed of a streamlet, that becomes a mountain torrent in the rainy seasons, but is nearly or quite dry in summer.

The landing at Funchal is on a stony beach, and is accompanied with some little difficulty, partly on account of the surf, but more from the noise, confusion and uproar made by the native boatmen in their efforts to drag their boat up on the beach. This operation they however understand, and are well accustomed to, and those who desire to land dry, will be wise to employ them.

On the 17th, we paid our respects, with a large party of officers, to the civil governor, the Baron de Lordello, field-marshal in the army, and administrator-general of the province of Madeira and Porto Santo; and also to the military governor, Jose Teixcera Rebello, colonel in the army, and commandant of the district.

His excellency, Baron Lordello, resides in the government house, or palace, which is a large quadrangular building, occupied in part as barracks. His suite of apartments fronts the bay, and enjoys a beautiful view of it; they also have the enjoyment of the inbat or sea-breeze. They are very large and but meagrely furnished. Around the large ante-room are hung the portraits of all the civil, ecclesiastical, and military governors, which form an imposing array of hard outline, stiff figures and faces, with a variety of amusing costume. Those of later years which have been hung up, are not calculated to give very exalted ideas of the standing of the present Portuguese school of portrait painting.

His excellency, the Baron Lordello, received us very courteously. Our audience, however, was extremely formal. After a few monosyllabic questions and answers, we took our leave, and the Baron did us the honour to see us through the ante-room to the hall of entrance, where we parted with many bows.

Our next visit was to the military governor, Señor Rebello, who occupied a small apartment at the opposite end of the building. This was not large enough to accommodate us all, and chairs were wanting for many. The manner and ease of the occupant made full amends. Ceremony and form were laid aside; he seemed to enter warmly into our plans and pleasures, and evinced a great desire to do us service.

The streets of the town are very narrow, without side-walks, and to our view like alleys, but their narrowness produces no inconvenience. They are well paved, and wheel-carriages are unknown. The only vehicle, if so it may be called, is a sledge, of some six feet in length, about twenty inches wide, and only six or eight inches high, on which are transported the pipes of wine. Two strips of hard wood are fastened together for runners.

This sledge is dragged by two very small oxen, and slips easily on the pavement, which is occasionally wetted with a cloth. It is no doubt the best mode of transportation in Funchal, for their wine, on account of the great steepness of their streets. Smaller burthens are transported on men's shoulders, or in hampers and baskets, on the backs of donkeys.

I was surprised to learn that all misdemeanours are referred for trial to Portugal, and that persons having committed small crimes are kept for years without any disposition being made of them by those in authority. They are maintained at the expense of the complainant, consequently crime is scarcely noticed or complained of. On the one hand, it makes the punishment very severe, and on the other, persons are inclined to take the law into their own hands against petty thefts. It is impossible to avoid many painful sights in passing the prisons. Caps on sticks are thrust through the iron gratings, and requests are made for alms, first in beseeching

tones, and afterwards, if nothing is given, one is pained with hearing cries of execration. The occupants are in keeping with the premises, and did not fail to excite both our commiseration and disgust.

On proceeding out of Funchal, fruits, flowers, and vegetables seem crowding upon the sight; in the lower portions, groves of orange and lemon trees are mingled with the vineyards, the trees are loaded with fruit; then, as one mounts higher, bananas, figs, pomegranates, &c., are seen; and again, still higher, the fruits of the tropics are interspersed with those of the temperate zone, viz. apples, currants, pears, and peaches, while the ground is covered with melons, tomatoes, egg-plant, &c. Farther beyond, the highest point of cultivation is reached, where the potato alone flourishes. Then the whole lower portion is spread before the eye. Vineyards, occupying every spot that is susceptible of improvement; and one rides through paths hedged in with geraniums, roses, myrtles, and hydrangeas. These plants, which we had been accustomed to consider as the inhabitants of our parlours and greenhouses, are here met with in gigantic forms, and as different from our small, sickly specimens as can well be imagined.

Every one who visits Madeira should see the Curral. It is a very remarkable spot, and it is difficult, if not impossible, to give an idea of its beauty and grandeur. This place is approached by the usual ascent from Funchal, through the narrow roads, or paths hedged with roses, &c., the view gradually extending beneath, over the terraced vineyards. Just before reaching it you mount a small ascent; you are then on the summit or edge of the Curral, and the whole scene suddenly bursts upon you. The eye descends to the depth of two thousand feet, into the immense chasm below, and wanders over the ragged and broken outlines of the many peaks that rise from its very bottom; then upwards, following the gray precipitous rocks, till their summits are lost in the clouds, which are passing fitfully across it, occasionally permitting the sunbeams to glance to its very bottom. The whole looks more like enchantment than reality. The shape of the Curral and its perpendicular sides give the idea rather of a gorge than of a crater.

The islands of Madeira and Porto Santo, under the new constitution, promulgated in 1836, were included in one district, called "Districto-administrativo do Funchal." It contains ten councils, in which are forty-five parishes. The population, according to the census taken in 1836, amounted to 115,447 souls; the English population to 108 families, numbering 324 souls.

The revenue of the island is stated to be about 210,000 dollars per annum. That portion which is derived from the customs, is about one-half, or 110,000 dollars. The remainder is from taxes and tithes.

There are about five thousand proprietors of the soil, of whom no more than six hundred and fifty live on their rents; and there are about four hundred who receive government salaries.

Mendicants are numerous, and one is much tormented with them from the very moment of landing. It is surprising to find them so

importunate in so fine an island, and where the necessaries of life ought to abound.

Wine is the staple commodity: the produce during the year 1837 was 14,150 pipes. The export the year previous to our visit amounted to 8435 pipes, of which about 3800 pipes went to the United States. The inhabitants of Madeira are much alive to and justly jealous of the reputation of their wines, which are generally the engrossing topic of conversation. An amusing excitement existed during our visit. A London paper (The Times) had asserted, that foreign wine had frequently been introduced into Madeira, and afterwards exported as the genuine article, to the United States in particular; and what gave more force to the story, it was stated as a fact, that 70 pipes had lately been entered, at the expense of 1000 dollars, and remanufactured. Everybody was up in arms. The commercial association of Funchal passed resolutions denouncing the publication in strong terms, as designed by certain interested persons to injure the reputation of the wine of Madeira. So strict are the laws to prevent frauds, that even genuine Madeira, after being once shipped, cannot be returned to the island. I heard, however, of an attempt, and but one, to smuggle in Teneriffe and Fayal wines, which was discovered. The casks were broken, the wine destroyed, the boats confiscated, and the smuggler condemned to be transported to the coast of Africa.

The people are industrious, sober, and civil, and although ignorant, I should think happy. There is little, if any, mixed blood among them. They are of the old Arabian stock. Free negroes are seen. Dark hair, eyes, and complexion, are most common; but much diversity in form and feature, and in the colour of the hair, exists. The character of the features of the inhabitants is usually rather a broad face, high cheek-bones, and pointed nose, full lips, good teeth, and retreating chin. The men are very muscular, rather above the middle height, strongly built, and capable of enduring great fatigue. We all agreed that the women were particularly ugly, which is to be imputed in part to the hard labour required of them. The two sexes do not appear to belong to the same race.

The men of the lower order are dressed in a kind of loose trowsers (cuecas), descending as far as the knee, with a shirt or jacket of a gaudy colour. Both sexes wear a kind of cap (carapuca), of very small dimensions, tied under the chin. Its use is not readily conceived, as it is only a few inches in diameter at its base, and terminates in a conical top, like an inverted funnel.

The women wear bodices, with short petticoats of a variety of colours, in stripes. They have usually shoes and stockings, but they generally go barefooted, with these articles tied in a small bundle, to be put on when they wish to appear fine. The children are poorly clad, have but one garment, and that dirty.

The habitations of the lower order would be called huts in our country. They are composed of walls of stone, about five or six feet high, with a roof rising on all sides to a central pole; are thatched with straw or broom, and contain only one room. The only aperture for light and smoke is the door. There is but little necessity for

chimneys, as fire is seldom required. It is said that in the northern part of the island, some of the peasants make their habitation in caves or excavations on the hillside.

In the town of Funchal there are many elegant establishments, and much luxury among the higher classes, but the poorer classes are lodged miserably. The houses are generally of one story, of which the exterior is well kept, being neatly whitewashed; but the interior is anything but comfortable. They have but one entrance. The floors are paved with round stone, and the walls are of rough stone, presenting no better an appearance than our wood-cellars. The furniture is scanty, and of the coarsest kind.

Travelling is performed in sedan-chairs. This mode is always considered the safest for ladies, particularly in crossing the mountains. Horses and mules are seldom used. On leaving Funchal for the country, it is one continued ascent between high stone walls, these forming abutments to the terraces, which are covered with vines, and afford protection from the sun. After reaching the hills, one enjoys a delightful view of the beautiful gardens. The roadsides are lined throughout with flowers, (to us, those of the green-house,) among them Fuchsias, digitalis, rose geraniums, Punica granata, Rosa indica coccinea, Hydrangea hortensis, mixed with box-trees, myrtles, &c.

The valleys are covered with the Belladonna lily, and the mountain-passes cannot be compared to anything more appropriate than to a rich flower-garden left to grow wild. Added to all this, a climate which resembles our finest spring weather.

Such of the peasantry as do not gain a subsistence in the vineyards, have usually a small patch of ground which they cultivate, raising grain, corn, potatoes, and the taro (Arum esculentum), in quantities barely sufficient to eke out a scanty living. The cultivation is commonly performed by hand, although a plough of very simple construction is sometimes used. Many of the peasantry are employed as carriers, and one is much struck by their numbers when entering Funchal early in the morning, with sheep-skins filled with wine on their shoulders, that look at a distance more like the live animal than a filled skin. These skins are preserved as entire as possible, even the legs of the animal being retained. They are generally kept steady by a band that passes over the forehead, which supports a great part of the weight. About twenty-five gallons, weighing more than two hundred pounds, is a load. They move rapidly, and carry this load five miles for a mere trifle. To us, one of the most remarkable features in the population was to see a female not only thus employed, but a stout mountain lass trudging up a steep path with ease, under a load that would have staggered one of our labourers even for a short distance.

The manner of expressing the juice I have nowhere seen particularly described; and although a description of it may not add a relish to the cup, yet it will show the manufacture as conducted according to the old custom, at the present day. A friend of our consul was obliging enough to show us his works, and the machinery for expressing the juice from the grape. It was in a

rude sort of shed. On our approach we heard a sort of song, with a continued thumping, and on entering, saw six men stamping violently in a vat of six feet square by two feet deep, three on each side of a huge lever beam, their legs bare up to the thighs. On our entrance they redoubled their exertions, till the perspiration fairly poured from them; the vat had been filled with grapes, and by their exertions we were enabled to see the whole process. After the grapes had been sufficiently stamped, and the men's legs well scraped, the pulp was made into the shape of a large bee-hive, a rope made of the young twigs of the vine being wound around it. The lever was then used, which has a large stone or rock attached to it by a screw. The juice flows off, and is received in tubs. The produce of the press is, on an average, about fifty gallons daily. Each gallon requires about ten bushels of grapes. The taste is very much like sweet cider. The process is anything but pleasing, and endeavours have been made by English residents to substitute machinery, but the prejudices, vexations, and difficulties experienced, have caused them to give up the attempt. The general average is from one to three pipes of wine per acre, annually.

The south side of Madeira, as is well known, although not the most fertile, produces the finest wines. Every point which can be cultivated successfully, is attended to, and earth is brought to increase the soil from other parts. The kinds of grapes are various, and the wines manufactured as numerous. The common Madeira is obtained from a mixture of Bual, Verdelho, and Negro Molle grapes; the Malmsey and Sercial, from grapes of the same name. There is a great difference in the spots, and peculiar exposure, where the vine grows; and different kinds of wine are produced, according to the state of maturity to which the grape is allowed to arrive at before being gathered. After being expressed, it is put into casks, undergoes the process of fermentation, is clarified with gypsum or isinglass, and a small portion of brandy is added, two or three gallons to the pipe.

The deportment of the lower classes is a mixture of politeness and servility. They invariably noticed us in passing by taking off the cap; and on receiving anything, kissed their hands, or made some other respectful salutation.

The language spoken in Madeira is Portuguese, but with a rapid utterance, or rather, clipping or abbreviating of their words and expressions.

The ignorance of the common people seems great. Few can read, and still fewer write. It is said they are acquainted with no more than three coins, all of which are Spanish, namely, dollars, pistareens, and bits, and that many kinds of Portuguese coins current in Lisbon, will not pass in Madeira. The want of a small description of money is much felt.

The markets are well supplied with meat, poultry, fish, and all kinds of vegetables.

The bat noticed by Bowdich was the only one of the mammalia seen in a wild state. Of birds, two species of hawks, the linnet, the canary, the goldfinch, the yellow wagtail, and the swift, were all

that were seen. Sea-fish are abundant; but not a single trace of a fresh-water fish was seen or found in the streams. Many specimens of crustacea, insects, and mollusca, were added to our collections.

The ride to the Quinta of Mr. Bean, at Comancha, is one of the prettiest the island affords. It is towards the east end, and some eight or ten miles from the town of Funchal. For variety of scenery and the beauty of its grounds, it is not exceeded by any on the island; and it gives a good idea of the effect of English taste when applied to the scenery and fine climate of Madeira. The road to it is the same that has been before described, passing through the gorges and around the different spurs, which gives great variety to it, and presents many fine views. Having a note of introduction from our consul, we stopped at Mr. Bean's gate, and sent the servant in, who returned, informing us that Mr. Bean was not at home, but a kind invitation to enter was sent to us from his lady. We did so, riding through hedges of Fuchsias and myrtles twelve feet high, when a beautiful little cottage, on a small, level spot, burst suddenly upon our view, with its verandahs embosomed in creeping vines; and from the notes of various kinds of birds, one could almost have fancied oneself in an aviary. Several small lakes were partially seen, their dimensions being ingeniously hid from view. On one of them was seen a tiny fleet safely moored, on another waterfalls, &c.; the banks of others were surrounded with aquatic plants, among which was the Calla Ethiopica, in full bloom. Then again we were struck with the dahlias, geraniums, roses, and jasmines, and the varieties of trees and shrubs from the tropics, besides willows, oaks, elms, &c., that were familiar to us. A view through the trees down the gorge to the distant ocean was beautiful, bringing before us all the bold scenery of Madeira: truly it was an enchanting spot. The grounds are extensive, and laid out with great taste, and each spot appeared in keeping with the whole. The hill behind the house was found by the sympiesometer to be two thousand and ninety-eight feet above the level of the sea.

After a stay of a week, we prepared for our departure.

CHAPTER II.

CAPE DE VERDES—RIO JANEIRO.

Squadron Sails from Madeira—Arrival at St. Jago—Appearance of the Island—Town of Porto Praya — Its Population — Language — Visit to the Governor — Public Fountain — Market — Drill of Recruits — Droughts — Climate — Slaves — Dress — Departure from Porto Praya — Arrival at Rio Janeiro.

ON the 25th of September we sailed from Madeira, and stood to the southward, intending to pass over the localities where shoals were supposed to exist.

After passing the Canary Islands, we experienced a current setting north-east by east, of about one-fourth of a mile an hour, until we reached the latitude of Bonavista, one of the Cape de Verde Islands.

On the 29th of September we passed into discoloured water, as green in appearance as that of fifty fathoms' depth. On entering it, the thermometer fell one and a half to two degrees. The distance run in it was about four hundred and fifty miles. Repeated casts of the deep-sea lead were had in from two to three hundred fathoms, but no bottom found. The water was particularly examined for animalculæ, but none were detected. On leaving it, a rise of temperature took place of two degrees; and much phosphorescence was seen when we had passed out of it.

On the morning of the 7th, we anchored in Porto Praya bay. The island of St. Jago presents a very difference appearance from Madeira, particularly the south-eastern portion of it, though its formation is known to be similar. There are many high peaks and mountains in its centre, which afford a fine background for the barren and uninteresting coast scenery.

The time of our arrival was just after the rainy season; the island, consequently, presented a more verdant appearance than it does at other seasons of the year.

Our consul, F. Gardiner, Esq., made us welcome to all the island afforded. An officer was dispatched to call upon his excellency, the governor, to report our arrival, who proved to be a black man.

The town of Porto Praya is prettily situated on an elevated piece of table-land, and looked well from the anchorage.

The bay is an open one, but is not exposed to the prevailing winds. There is generally a swell setting in, which makes the landing unpleasant and difficult. The only landing-place is a small rock, some distance from the town, and under a high bank, on which there is, or rather was, a fortification, for it is now entirely

gone to decay. It commands the bay, and is situated about two hundred feet above the sea. The horizontal stratification of the red and yellow-coloured sandstone shows most conspicuously in this cliff, and forms one of the most remarkable objects on this part of the island. It is of tertiary formation, and contains many fossils.

On landing, a stranger is immediately surrounded by numbers of the inhabitants, with fruit, vegetables, chickens, turkeys, and monkeys, all pressing him with bargains, and willing to take anything, for the purpose of obliging their customers. Many of them continue to follow until they meet with some new customer.

The soil, rocks, and everything around on the surface, show unequivocal marks of volcanic origin. The rock above the tertiary formation is a thick bed of cellular lava, with fragments of the same strewn in every direction over it. A thin and poor soil gives but little sustenance to a light herbage. Goats and asses are found in great numbers grazing upon it.

The walk from the landing to the town is exceedingly fatiguing, and the road deep with sand. The first view of the town on entering it is anything but striking, and all the ideas formed in its favour are soon dispelled. The houses are whitewashed, and in general appearance resemble those inhabited by the lower orders in Madeira, but they are much inferior even to them. The north-east part of the town is composed of rough stone houses, covered with palm leaves. The streets are wide, and in the centre is a large public square, the middle of which is occupied by a small wooden monument, said to be emblematical of royalty! A chapel, jail, and barracks constitute the principal public buildings. The fort, which flanks the town, is almost entirely in decay. This is the case with almost everything we saw here; the place is, indeed, little better than an African town. The houses are of stone, one story high, partly thatched, and others tiled. Their interior presents only a few articles of absolute necessity. Of comfort and cleanliness, in our sense of the words, they have no idea. The houses and streets are filthy in the extreme; and in both of them, pigs, fowls, and monkeys appear to claim, and really possess, equal rights with the occupants and owner.

The population is made up of an intermixture of descendants from the Portuguese, natives, and negroes from the adjacent coast. The negro race seems to predominate, woolly hair, flat noses, and thick lips, being most frequently met with. The number of inhabitants in St. Jago is about thirty thousand. Porto Praya contains two thousand three hundred, of which number one hundred are native Portuguese.

The language spoken is a jargon formed by a mixture of the Portuguese and Negro dialects. Most of the blacks speak their native tongue. Mr. Hale, our philologist, obtained here a vocabulary of the Mandingo language, and found it to agree with that given by Mungo Park.

The officers of this garrison were, like the governor, all black.

The latter made a brilliant appearance, dressed in a military frock coat, red sash, two large silver epaulettes, and a military cross on his breast. He was good-looking, although extremely corpulent, and speaks both French and Spanish well. He was very civil and attentive. Fruit, bread, cheese, and wines, were handed about. Some of the wine was made on the island of Fogo, and resembled the light Italian wines. The cheese also was made here from goats' milk, and resembled the Spanish cheese. After doing ample justice to his excellency's good fare, we proceeded to view the lions of the place.

The first and greatest of these is the fountain, or common watering-place of the town, above half a mile distant by the path, in a valley to the west of the town, and almost immediately under it. The fountain is surrounded by a variety of tropical trees, consisting of dates, cocoa-nuts, bananas, papayas, sugar-cane, and tamarinds, with grapes, oranges, limes, &c. &c., and when brought into comparison with the surrounding lands, may be termed an enchanting spot; but what adds peculiarly to its effect on a stranger, is the novelty of the objects that are brought together. Over the spring is a thatched roof, and round about it a group of the most remarkable objects in human shape that can well be conceived. On one side blind beggars, dirty soldiers, and naked children; on another, lepers, boys with monkeys, others with fowls, half-dressed women, asses not bigger than sheep, and hogs of a mammoth breed; to say nothing of those with cutaneous disorders, that were undergoing ablution. All conspired to form a scene peculiar, I should think, to this semi-African population. Here sailors watering and washing, chatting, talking, and laughing; there a group of *far niente* natives of all sizes, shapes, and colours, half-clothed, with turbaned heads and handkerchiefs of many and gay colours, tied on after a different fashion from what we had been accustomed to, the shawls being reversed, their ends hanging down behind instead of before, completely covering the breast, and one-fourth of the face. This well barely supplies the wants of the inhabitants and shipping, and they are now about building a reservoir. The whole of the stone for it was prepared in Portugal, and made ready for putting up. It is to be of marble, and the water for its supply is brought two miles in iron pipes.

A market is held daily in the morning when any vessels are in port. The square in which it is held is quite a large one, with a cross in its centre. The market is not of much extent, but a great variety of tropical fruits, of the kinds before enumerated, are exposed for sale in small quantities, as well as vegetables. These consist of cabbage-leaves, beans, pumpkins, squashes, corn, potatoes, yams, mandioca, &c. All these were spread out on the large leaves of the cocoa-nut tree. No kind of meat was for sale. The only articles of this description were chickens four or five days old, tied up in bunches, and some eggs. In order to obtain beef, it is necessary to buy the cattle at the cattle-yard, where, on previous notice being given, you may choose those that suit for slaughter. They are in general of small size, and dark coloured. Those we

saw were from the interior of the island, where they are said to thrive well.

The morning drill of the recruits, which was witnessed, was amusing. They were cleanly dressed, but the rattan was freely used by the sergeant; and what seemed characteristic or in keeping with appearances around, the sergeant, during the drill, ordered one of his men from the ranks to bring him some fire to light his cigar.

No trades were observed, and but one small carpenter's shop. A few shops were supplied with cotton, hardware, &c. There were likewise a number of little wine shops, where they also sold fruit, which they usually have in great plenty; but all their crops depend much upon the rains, and the inhabitants have also become indifferent or careless about raising more than for their own supply, from the heavy exactions of government made upon everything that is cultivated. The demand for shipping has of late years very much decreased. The improvement in the supplies and comforts on board of vessels on long voyages, now make it unnecessary to touch in port, as was formerly deemed unavoidable.

Porto Praya is yet visited by whale-ships for supplies. Although the soil is poor, and the crops very uncertain, yet the tropical fruits and some vegetables can always be obtained here. They are usually, if time is allowed, brought from the interior. The inhabitants have at times suffered almost the extremes of famine, in consequence of the droughts that prevail for successive years, and especially during the one that took place in 1832.

The exports from these islands are salt, some ordinary wine, hides, goats' skins, and orchilla. The latter is a government monopoly. Ninety thousand milrees were paid by the company for the yearly crop, and it is said at that price to yield a handsome profit.

The climate of these islands is said to be healthy, though exceedingly warm. It is subject to fevers, which generally take place during the rainy months of July and August.

Slaves are imported from the coast of Africa, and settlers or heads of families are not allowed to bring with them more than ten slaves. There was one at the consul's, recently imported from the Foolah district in Africa, who was purchased by him for one hundred and fifty dollars.

The costumes here are so various, that it scarcely can be said that any one of them is peculiar to the island. The men generally wear a white shirt and trowsers, with a dark vest, principally the cast-off clothing of the whites. Others go quite naked, excepting a straw hat; others again are in loose shirts. The women have a shawl fastened around them, with occasionally another thrown over them, covering the mouth and bust, and crossing behind. The children, for the most part, go naked.

On the afternoon of the 23rd of November, we took a light wind from the southeast, and with all sail set, stood in for the magnificent harbour of Rio Janeiro. Our attention was drawn first to the high, fantastic, and abrupt peaks of Gavia, the Sugar Loaf, and Corcovado, on our left; whilst on our right we had the bold point of Santa

Cruz; then before us the city of San Salvador, and the towns of San Domingo, with Praya Grande opposite, and the islands and fleet that lay between them decking this beautiful expanse of water. These objects, with the pinnacles of the Organ Mountains for a background, form such a scene that it would be difficult to point out in what manner it could be improved. The life and stir created by the number of vessels, boats, and steamers of various forms and of all sizes passing to and fro, give great animation to the whole.

The mountains present a very peculiar appearance. Their tops and sides have a rounded or worn surface, destitute of verdure, with the exception of here and there a yellowish patch, produced by the Tillandsias, which in places covers the rocks. The abruptness of the Sugar Loaf mountain, and those immediately behind Santa Cruz, strikes the spectator very forcibly.

The shipping do not form, as in other places, a dense forest of masts. There being no wharves, they are obliged to lie at anchor, exhibiting their proportions and symmetry to great advantage. They are usually seen grouped together, with their different flags flying, forming a picture that a painter would delight in.

There is a feeling of security on entering the harbour of Rio, that I have seldom experienced elsewhere, not even in our own waters. The mountains seem, as it were, to afford complete protection from the winds and ocean. We anchored near Enxados or Hospital Island, and found the Peacock had arrived here three days before us, and that she was proceeding with her repairs rapidly. The vessels being altogether unfit for the southern cruise, it became necessary to effect the requisite repairs as speedily as possible.

The instruments and stores were allowed to be landed free of inspection, and every assistance we could desire was afforded us by the government and its officers. How different a policy and treatment from that pursued towards Captain Cook, some seventy years before, under an ignorant and jealous colonial government!

CHAPTER III.

RIO JANEIRO.

Rio Janeiro—Its Improvements—Its Present Condition—Churches—The Misericordia —Funerals—Emperor's Birthday—Aqueducts—Public Garden—Museum—Bay and Harbour—Vegetation—Botanic Garden—Slave Population—Coffee-carriers—Researches into the Nations of Africa—Treatment of Slaves—Streets of the City —Society—White-jacket Ball—Defects in the Equipment of the Squadron—Trip to the Organ Mountains—Ascent of the Corcovado.

THE city of San Salvador, better known as Rio Janeiro, has been often described. At the time of our visit, a great change appeared to have taken place within a few years, as well in its outward appearance as in its government and institutions, thus giving to the whole a different aspect from that it formerly wore. Under its former monarch, Don Pedro the First, it had all the aspect of a court residence; now it is the very reverse. I shall therefore give my own impressions, and sketch a picture of its state as we found it in the latter part of the year 1838.

Republican forms, habits, and customs, are gradually creeping in under its new and reformed constitution. It is not to be denied that the people now appear to be much better off than formerly, and more at liberty to carry on their lawful pursuits. Commerce and intercourse with foreigners are every day making liberal advances. Every one, on his first landing at Rio, will be struck with the indiscriminate mingling of all classes, in every place, all appearing on terms of the utmost equality; officers, soldiers, and priests, both black and white, mixing and performing their respective duties, without regard to colour or appearance. The only distinction seems to be that of freedom and slavery. There are many wealthy free blacks, highly respectable, who amalgamate with the white families, and are apparently received on a footing of perfect equality. The police, too, consisting of a national guard, has taken away those forms of military parade that formerly existed. An air of independence is creeping in even among the working classes. Any little service that is required, and for which they are well paid, they appear to consider as a favour done you. The mechanical arts are at least half a century behind those of our own country. The churches, which are numerous, are falling into decay, which gives a dilapidated look to the city; its religious ceremonies are dispensed with, and, to crown all, the steps of the churches are made a market-place for the sale of sheep, pigeons, fruit, &c. To judge from appearances, and the attendance on its services, there exists little religious feeling towards the Roman Church. It is true, the same constant

ringing of bells occurs that is to be heard in all Catholic countries, and other outward signs are still kept up; but the priesthood are not regarded with such awe as they formerly were, and society seems to be breaking through the trammels that have so long enslaved the female portion of it. Religion is a mere name among the youth of Brazil. The aged are still observant of its ceremonies, but little or no attention is paid to the Sabbath. The stores and the workshops are open the same as on other days. A few are seen going to worship in the morning of that day, but a greater number attend the billiard-tables in the afternoon, and the theatres at night.

We saw Rio Janeiro under its most favourable aspect, that of the holidays, when the Church had put on all her finery and decorations, and every one, slave as well as master, seemed intent upon enjoying himself. The Christmas week or holidays give a respite from all labour, and various are the amusements. The churches are decked, and the services extraordinary.

The neglect of the public walks and roads shows a want of proper attention, and strikes the visitor as different from the usual order of things around a court. So far as cleanliness goes, Rio, I am told, is not much improved. It has every advantage to make it a clean city, but the inclination appears to be wanting. Although the government is doing little, one sees the spirit of enterprise among the citizens. Many private dwellings are being erected, and I understood that many other improvements were taking place.

The houses of the city are strongly built of stone, cemented together with clay; this is used in consequence of the scarcity of lime, which is only obtained by burning shells fished up from the bay. The houses are plastered on the outside, and have a pretty appearance and colour. The floors, beams, and roofs are made of the hard wood of the country, of great size and strength, which are indeed necessary from the heavy tile roof they have to bear. Very few of the houses have yards, cellars, or gardens; consequently the dwellers are still greatly incommoded from the want of water-closets, detrimental both to health and comfort, and not only an annoyance and inconvenience to the inhabitants themselves, but shared by the stranger in passing through the streets.

We of course saw all that was to be seen in Rio. The churches claimed our first attention. They are richly decorated in the interior, with massive gold and silver ornaments. On some of the altars of the saints it is the practice to suspend the diseased parts of the body in wax, in honour of the cure supposed to have been effected by the saints' intercession. The sight of these is truly disgusting, although they are far from being ill executed.

The Misericordia has now become much out of repair, and I understood had fallen off in its charitable usefulness, but it still shows the remains of its former splendour. Few monks were seen about, and dead bodies were laid out in the Green House. At the time we visited it there were eight, the greater part of whom were negroes. A monk was seen saying a hasty prayer over the bodies, which were at once thrown into the trench, when they were sprinkled with lime, placing one layer over the other, until the hole, about

six feet square and as many deep, is filled, or level with the surface. After one of the trenches is filled, another is dug by the side of it. The crowded state of this place of interment is but too evident from the number of skulls and bones lying about, some still with portions of flesh adhering to them.

On the same evening, while this scene was still fresh in our minds, and as if in strong contrast with it, we met the funeral of a person of distinction. A black hearse, ornamented with black plumes, was drawn by mules. The driver had a cocked hat and black plume. The coffin was covered with a scarlet pall, ornamented with silver. About twenty altar-boys, in their church dress, preceded the hearse, which was surrounded by about the same number of black servants, in livery, all carrying lighted wax candles. The body, on arriving at the imperial chapel, was removed into it, and all who entered the chapel were furnished with lighted tapers. Mass and the funeral service were performed by the priest, and some delightful music by a full choir. The body was then taken into the Campo Santo, a kind of amphitheatre, with high walls, a short distance from the church. About a thousand vaults are built in the wall. One of them was opened, the body interred, and the wall built up again. The centre of this sepulchre is laid out in a flower-garden, and is about one hundred feet in diameter.

December 2d was the birthday of the Emperor, Don Pedro the Second, who then was thirteen years old. It was celebrated with all due pomp. Great preparations had been making for many days. He was to pass into the city from St. Christoval, his usual residence, in procession, and to hold a levee at the city palace. The streets were strewn with orange and other leaves, a triumphal arch erected, &c. But a description of his progress will give a better idea of it.

Having left St. Christoval, he entered the city about noon, preceded by a large troop of horse. He rode with his sisters, one sixteen, the other fourteen years of age, in a splendid English carriage, with bronze and gold mountings, drawn by eight cream-coloured horses, gaily caparisoned, with silver-mounted harness, the servants in rich liveries. Three carriages, drawn by six horses each, followed, containing officers of state and his household, the whole surrounded by the Emperor's guards, and above five thousand military following. Great crowds of people had assembled to witness this parade. As the carriages passed under the balconies, garlands of flowers were thrown upon them. They entered the principal street through a triumphal arch, beautifully decorated with natural flowers, on which were placed two little boys, dressed in blue and pink, with wings to represent angels, each holding a basket of flowers, which they threw on the young monarch when he passed. The houses in the streets through which the procession moved were hung with satin damask draperies of the richest tints. These I understand are kept expressly for such occasions. At short intervals national flags were suspended across the streets. The Emperor moved on, receiving the same marks of affection from his subjects until he reached the great square and palace, where he

alighted. The troops forming around the square soon came to order, and a general pause ensued, until the firing of the *feu de joie* began, one of the most deafening I ever heard. He finished this public exhibition by showing himself to the multitude below from the balconies of the city palace, and was received with many *vivas*.

He then held his levee, which the Rev. Mr. Walsh has so well described, and which closely resembled the one at which he was present, with this difference, that this was much more of a farce, in consequence of the boyhood of the Emperor. Nothing can be more ridiculous than to see all the dignitaries and old men, the mitred bishop, the sage diplomatist, and the veteran soldier, ushered into the presence, and out again, without saying a word, or turning their backs on the young monarch. Mr. Walsh has, however, said nothing about the scene in the anteroom; to me it was the most ridiculous of all. The arranging the order of entrance to the presence, with due form and etiquette; the examination by each diplomatist that he has his due order of precedence; their anxiety to gather their suites around them, not unlike a hen with her chickens, to make the fullest show; all prepares one for the ridiculous scene that is to follow. The oldest resident minister always takes the lead. At night the city was illuminated.

Rio is now well supplied with water. Aqueducts have been finished within the last two years, which bring it from the Corcovado and Tejuca Mountains, a distance of six or seven miles. There are a number of public fountains in different parts of the city. All the water for the supply of families is transported by slaves. These fountains have numerous jets, and some have pretty edifices over them. During the day there are seldom less than fifty to one hundred, both male and female, water-carriers around them, filling their jars, with which they are seen moving about poised on their heads. Near the large fountain called Hafariz, in the square of Santa Anna, are two large basins, about fifty feet long and twenty-five wide. These are commonly filled with about two hundred negro women, who daily assemble to wash. Numbers of them are half naked, standing up to their middle in the water, beating and thrashing the clothes they are employed to clean against the adjoining wall.

Few articles are transported in any other way than by slaves, and it is extremely rare to see a cart drawn by any beast of burden. Antique-looking carriages and two-wheeled calescas are generally seen.

The museum is open twice a week; it is quite creditable to the city, and well worth seeing. It appears to attract more attention from the inhabitants of Rio than I should have been led to expect. It is extremely rich in its native collections, and is well taken care of.

The theatres, of which there are three, are seldom open on week-days, but always on Sunday.

The bay is very beautiful, and is usually covered with small boats, felucca rigged, without decks, and generally about twelve tons' burthen. These boats are rowed by blacks. The oars are large, the men row in a standing posture, and thus add the weight of their

bodies to their strength. At times the bay seems alive with the number of these vessels, and of small canoes, each made of a single trunk, which are used in fishing. Many of these vessels are also engaged in the coasting trade. Foreigners are usually employed to take charge of the latter, which sail under the Brazilian flag. Steamers are beginning to be used. One plies between Rio and Santos, and during our stay, another left the harbour for Monte Video. The greater part of the vessels in the bay are under foreign flags, and I was much surprised to observe how few comparatively are English, and how many are from the north of Europe.

The harbour of Rio may be considered as not extending farther than Enxados Island, above which few vessels lie. The front of the city is not well adapted for wharves, and none consequently exist. There are some stairs, but they are not well protected from the sea, which at times renders landing almost impossible.

In Rio the vegetation seems to fix the attention above all other things, especially of those situated as we were, in the harbour, having it continually before one's eyes.

Here, as in all tropical climates, the truth of the remark made by a botanist, "that everything grows into shrubs and trees," is obvious. Herbaceous plants are rare, and annuals may be said to be almost wanting. The fruit trees are generally seen bearing fruit and flowers at the same time. This was the case as observed by one of our party, even in the cultivated apple on the Tejuca Mountains.

The botanic garden is in a flat situation, backed by a high ridge of mountainous land. In front is a lake of brackish water, which forms a considerable bay, and communicates with the sea by a narrow inlet. The entrance to the garden has a mean appearance, and does not correspond with the broad promenades within, which are planted with trees on each side. The whole is laid out in the old Dutch style; seats, arbors, and houses are cut out of arbor vitæ, (*Thuja orientalis.*) In the centre of the garden was a small fountain, near which grew some fine specimens of the splendid Bougainvillea bracteata, in full flower. There is also a fine collection of Orchideæ, which are cultivated on decayed trunks of trees. The bread-fruit trees (*Artocarpus incisa*, and *integrifolia*) succeed very well. There were some trees, of both kinds, forty feet high, and the fruit of the latter as large as an ordinary watermelon. Several groups of bamboos had a good effect among the other trees, but their stems bore evidence of a propensity to the carving names, as a memento of the person's visit. Among them I was glad to see the names of many Europeans, which serves to prove that this habit does not exist among Americans alone. Here an attempt was made some years since to introduce the tea-plant, with natives of China to cultivate it. The plantation appeared to our botanical gentlemen in a sickly state.

The great and distinctive characteristic of Rio may be said to be its slaves and slavery. This evil continually presents itself to the observer, and he cannot, if he would, divert his attention from the many sights which keep it before his mind.

The slave population is stated at five times the number of that of

the whites, and notwithstanding the existing danger of maritime capture, the supply still seems equal to the demand. Although many slavers are taken by the English cruisers, brought in and tried by the mixed commission, agreeably to treaty, yet means are found to introduce the slaves. Two slavers were lying in charge of the English squadron while we were there. On board of them, though quite small vessels, were two and three hundred negroes. It is difficult to imagine creatures more emaciated and miserable. Nor will it fail to excite surprise, that they should be kept thus confined by those who affect to establish their freedom and ameliorate their condition. These vessels, it is understood, had obtained their victims on the eastern coast of Africa.

Slaves are almost the only carriers of burdens in Rio Janeiro. They go almost naked, and are exceedingly numerous. They appear to work with cheerfulness, and go together in gangs, with a leader who carries a rattle made of tin, and filled with stones (similar to a child's rattle). With this he keeps time, causing them all to move on a dog-trot. Each one joins in the monotonous chorus, the notes seldom varying above a third from the key. The words they use are frequently relative to their own country; sometimes to what they heard from their master, as they started with their load, but the sound is the same.

These slaves are required by their masters to obtain a certain sum, according to their ability, it is said from twenty-five to fifty cents a day, and to pay it every evening. The surplus belongs to themselves. In default of not gaining the required sum, castigation I am told is always inflicted.

It is said that the liberated negroes who own slaves are particularly severe and cruel. The usual load carried is about two hundred pounds weight.

Vast numbers of slaves have been and are still imported annually into this market; and as very many of the same nation or tribe associate together, they retain their own language, even after they have been in the country for some years. It may be seen by the most cursory examination, that they are marked in such a manner as to serve to distinguish their different races. Some have little of the distinctive negro character, and others more of it than any human beings we had seen.

The negroes of Brazil who have been brought from North and South Africa, are divided into two distinct and very dissimilar classes. The natives of that portion of the continent known under the general name of Upper Guinea, include the countries in the interior as far as Timbuctoo and Bornou, being the whole of that region lately explored by the English expeditions. The slaves from this quarter, though of various nations and languages, have yet a general likeness, which stamps them as one race. In Brazil they are known under the name of *Minas*.

The Minas slaves are said to be distinguished from others by their bodily and mental qualities. They are generally above the middle height, and well formed, and betray little of the levity usually ascribed to the negro race.

In Brazil they occupy the highest position that slaves are allowed to attain, being employed as confidential servants, artisans, and small traders. They look down upon, and refuse to have any connection with, or participation in, the employment of the other negroes. Many of them write and read the Arabic, and all can repeat some sentences of it. The greatest number of slaves who purchase their freedom belong to this race.

There is one singularity which seems to be common to the inhabitants of both regions, and which may be compared with the practice of tattooing which prevails throughout the tribes of Polynesia, viz.: the custom of cutting or branding certain marks upon the face and body, by which the individuals of one tribe may be distinguished from those of any other. This practice is general among all the Minas, and also prevails along the eastern or Mozambique coast of Southern Africa. Among the western or Congo tribes it does not appear to be universal. It will be readily understood that these marks are of great service to the slave-traders, and all that have much to do with native Africans soon learn to distinguish them; and the price of a slave is depressed or enhanced accordingly. Among the Mina nations, so called after a port on the Slave Coast in Upper Guinea, where these slaves are obtained, this practice is carried to its greatest extent. Each province or city of importance has a distinct brand or mark, which is invariable for all the inhabitants.

Of the tribes speaking the Houssa language, the Goobere, or Guberi, from the kingdom of Bornou, have three or four marks on each side of the mouth, converging towards the corners.

Those from the town of Kano, inhabited by a population of traders, have several perpendicular and parallel marks on each cheek.

The same mark prevails among the people of Kashua and Labbi, neighbours of the foregoing.

The Soccatoos, or Sakatus, on a branch of the Quorra, have several fine long oblique marks, converging towards the corners of the mouth.

Dawwarra or Dawara: these have parallel oblique lines, drawn to the corners of the mouth, with shorter marks meeting or bordering them above and below.

The men of the Nago or Yarribe nation, on the west bank of the Niger or Quorra, below the Houssa, have three or four longitudinal marks on each side of the mouth.

Those of the women are more complicated.

The Tacqua, otherwise called Nouffie or Nyffie, live on the eastern side of the Quorra, opposite the former, and have two or three oblique lines drawn to the corners of the mouth.

The Fantees and Ashantees inhabit that part of the coast of Guinea known as the Slave Coast, and the country in the interior. The former have no distinguishing mark; the latter are characterised by scars produced by burns on the forehead and cheeks.

The Calabars, on the Gulf of Benin, near the mouth of the Quorra, are marked with two lozenge-shaped brands on the breast and stomach.

The Eboes live near the preceding, at the separation of the mouths of the Quorra. Their mark is an arrow on each temple, The town of Ebo is a great mart for the surrounding country.

The nations to the south of the equator, have the usual form of the negro, agreeably to our ideas. Those of the slaves at Rio Janeiro, are in general short, badly formed, or clumsy, with narrow foreheads, flat noses, protruding jaws and teeth, and prominent cheek-bones, with the chin sloping backwards. They are indolent, thoughtless, and licentious. They may be seen in the streets at all hours, employed as carriers, earning the stipulated sum for their masters. And when this is gained, they are to be found stretched out on the sidewalk, under the porticoes, or on the steps of churches, enjoying themselves as mere animals, basking in the sun or sleeping in the shade. They are not deficient in intelligence: the defect is less in their intellectual powers than in their character, which appears to want energy.

The Minas are held in much fear in Brazil. They are extremely numerous at Bahia; and it is understood that during a late insurrection, they had fully organised themselves, and were determined to institute a regular system of government. They had gone so far as to circulate writings in Arabic, exhorting their fellows in bondage to make the attempt to recover their liberty.

Tattooing, or marking, does not prevail among the tribes of Lower Guinea to any great extent. The Kambindas, who border immediately upon the Minas, appear to have borrowed from them the custom, but employ it rather for the purpose of ornament than as a mode of distinguishing their origin. The marks or figures with which they brand themselves are various, and sometimes ornamental. They are called in Brazil, Kambindas, after the town on the river Zaire or Congo, at which they are procured.

Of the Sundi or Mayomba, who live immediately north of Loango, between latitude 3° and 4° S., some have a row or band of small cicatrices coming from each shoulder to the centre of the breast, like the ends of a pelerine; others have various arabesque ornaments.

Those who come from Buali, the capital of the Loango district, in about latitude 4° 30′ S., have marks like the preceding on the breast, and chers on the arms.

Towards the south, tattooing is less common, and among the Goy or Angoya people (the Kambindas proper) few but women are so ornamented.

The Angoyans, however, file their teeth after a peculiar fashion, each tooth being cut down or filed in the centre, so that only the sides are left standing; the contiguous sides of the teeth form a single saw-like tooth.

The inhabitants of the town of Embomma, on the north bank of the river Congo, are distinguished by the teeth being filed so that each tooth forms a point.

The Mundjola, a savage tribe living in the interior, beyond the Loango district, are esteemed the least valuable of all the blacks imported into Brazil, being stupid, ferocious and intractable. In

Africa they are stigmatised as man-eaters by the other negroes. The Mundjola have the usual negro features, with somewhat of a Tartar expression.

Of the exact geographical position of the Mundjola, no definite information was known. The part of the continent which they are said to inhabit is still unexplored; the account which one of them gave Mr. Hale was, that he had been three days with his captors in canoes, from his native place, M'te, situated on the great river Muote, before reaching Loango, where he embarked. It is probable that M'te is in the interior, two or three hundred miles northeast of Loango, and that he was brought to the coast by the Zaire river; but in this wild, unexplored ground, all is yet conjecture. The next town or tribe to M'te he called Mudimbe.

The extensive territory, bounded on the north by the river Coanza, in latitude 9° 20′ S., on the west by the Atlantic, on the south by the Great Desert, which interposes between it and the country of the Hottentots, and reaching to an indefinite distance in the interior, is known under the name of Benguela, or as the natives pronounce it, Bengera. Over this extent of country, comprising at least half of Lower Guinea, the same general language is supposed to prevail, though subdivided into several dialects.

The Benguela blacks have a much higher character as slaves than the other nations of Lower Guinea. They are next in estimation to the Minas, being steady, industrious, and intelligent. They make excellent husbandmen. They are generally of good height, with features having less of the negro stamp than those of the Congo: the forehead tolerably high, the nose not much depressed, and the lips moderately full.

The extent of the Congo territory is now comprised between the Zaire and Dande rivers, or about two hundred miles of seacoast. These limits define with sufficient accuracy the extent within which the Congo language prevails.

The Congoes file their teeth after the fashion of the Angoyas. Sometimes, though not often, they have a few marks on each temple.

The Angola and the Kasanji are considered in Rio as of different nations, but their languages are the same, with hardly a dialetical difference, and it is extremely soft in pronunciation. Some of the natives found great difficulty in enunciating sounds of the Portuguese, saying *balaba* for *barba*, *cibili* for *cidade*. Though the Angola and Kasanji spoke the same language, yet there was a considerable difference between the dialects of two Angolas, the one from Lando on the coast, the other from M'Baka, or Ambacca, about three hundred miles in the interior.

From the best information, it is believed that the only distinction between them is, that the Angolas are under the domination of the Portuguese government, and the Kasanji are the free natives of the interior.

The former inhabit a narrow province, from sixty to eighty miles in width, between the two rivers Dande and Coanza, and extending inland something more than a hundred leagues, or as far as the Portuguese power can make itself felt; the latter, commencing at

MINA.

ASHANTEE.

MUNDJOLA.

BENGUELAN.

MAKUAN.

NYAMBANA.

this point, are spread over a large territory in the interior of the continent. One of the natives stated the time it took to go from Loando (the Portuguese sea-port) to Kasanji to be three months, and to return two; the former journey, as far as it was made in boats, being against the stream.

The eastern coast of Africa, from the equator to the Hottentots of the Cape, is occupied by two nations or races of people, which, though bearing marks of a common origin, are yet perfectly distinct. Each of them is subdivided into several minor tribes or clans. The first of these may be called the Mozambique or Makua, and the second the Caffre race.

The Mozambique or Makua tribe, are the people who possess all the country inland of the Portuguese and Arab settlements, Melinda, Quilao, Mozambique, Quilimane, and Sofala. They occupy the country which was formerly comprised in the empire of Motapa, but is now divided between the Portuguese and several native provinces. The southern boundary of this people appears to be the river Inhambane, which empties into the Indian Ocean, near Cape Corientes, under the southern tropic. The negroes who inhabit the country near the Portuguese settlement of Mozambique, are the Mozambique or Makuans: they differ little in their character or bodily conformation from the Congo tribes on the opposite coast. They have the negro physiognomy and qualities in their full extent, and perhaps are, if anything, rather lower in the grade of intellect than their brethren of the west.

The custom of marking prevails among all the tribes of the eastern coast. The Mozambique people are distinguished by a scar like a horse-shoe in the centre of the forehead, with others somewhat different on each side. They have other marks of a similar nature on the chin, and a large brand in the shape of the letter S covers the breast; their teeth are filed sharp, each tooth making a separate point.

The Takwani dwell on the great river Zambezi, at whose mouth Quilimane is situated. This was formerly the line of division between the northern or barbarous Makuans and the territories of the Motapa. Although this empire is extinct, the countries south of the river still preserve some political connection. All this region was formerly termed Mocacougua by the Portuguese. The Takwani, by way of marks, have several groups of dots or scars imprinted in various parts of the forehead, and also on the breast.

Takwani is situated four days' journey up the river Zambezi.

The natives of Mesena have also the same marks; they inhabit the country round the Portuguese fort Sena, on the Zambezi, and were formerly part of the great kingdom of Motapa.

The Caffres who are found as slaves, are generally slender and well made, with faces partaking slightly of the Moorish cast. Their colour is a yellowish brown, between that of a mulatto and true negro. The nose is not depressed, the lips are rather thick, the eyes large, black, and bright, and the hair woolly. Two divisions of the Caffres have been described by the various authors who have written of them and their dialects. These tribes they have divided

into the Caffres proper, to the east of the colony of the Cape of Good Hope, extending from the Great Fish River as far east as Delagoa Bay, in latitude 26° S.; and the Bechuanas, to the north, inhabiting the interior as far as the tropics, and the country of the Wanketsi.

The country between Delagoa Bay and Sofala, is inhabited by another race of Caffres, by the name of Nyambana. Their language and physical traits belong to the same family with the Caffres proper and the Bechuanas. Their physiognomy is similar to that described as distinctive of the Caffres, and their language proved to be a sister dialect.

The distinctive personal mark of this tribe is the most extraordinary of any. It consists of a row of artificial pimples or warts, about the size of a pea, beginning in the middle of the upper part of the forehead, and descending to the tip of the nose. Of these they are very proud. The manner in which these singular elevations were produced, we were not able to learn. The natives appeared to be averse to speaking of it.

The Mudjana or Mutchana are one of a number of savage tribes who inhabit the country inland of Makua and Mocacougua, with whom they carry on a continual war, for the purpose of procuring slaves. The best known of these are the Mudjana, the Mananji, the Maravi, and the Makonde. The Mudjana dwell about three hundred miles from the coast, and are among the ugliest of the African tribes. They are short and ill-formed, with the usual negro features in their most exaggerated forms. They have on the face and body cicatrices in the shape of a double cross or star, disposed without regularity. The incisions are made when they are children, and some kind of wood is rubbed upon them to give a dark colour.

The Makonde, similarly located, have marks like to those of the Mudjana. Their teeth are filed down in the centre, the sides of each tooth being left like those of the Angoyas.

All these blacks are from different parts of the coast, and having been hostile tribes, retain much of their antipathy to each other. In general they are kindly treated, and become firmly attached to their masters; more, however, from a clannish feeling than from gratitude, of which virtue they seem to possess little. They are baptised by their owners as soon as purchased, and in the cities attend mass regularly, and go to confession, but they are never thought to become entirely civilised. Those who receive their freedom in reward for faithful services, or purchase it, conduct themselves well; their descendants are much superior in point of intelligence. Many of them own slaves, and prove much more severe masters than the whites. Male slaves are put to any trade or craft they may desire. Females are for the most part employed as mantua-makers, and almost all the finery worn by the higher circles at public *fêtes* is made by slaves. Indeed, many masters and mistresses are dependent on the labour of their slaves for their daily support. There are some blacks who are priests, and others officers in the army; indeed, some of the deputies would not pass for white men elsewhere.

Another remarkable circumstance that strikes the visitor, is the absence of beggars. Many disgusting objects may be seen among the slave population at Rio, but I do not recollect having met with a beggar. I have understood that they are not suffered to appear in the streets. This is the law in almost all cities, but here it is rigidly observed. Charitable institutions are extensively endowed, particularly that of the Misericordia.

The streets of the city generally cross each other at right angles. Some few of them have sidewalks, but they are narrow, and badly paved. The gutters are in the middle of the streets, with a stream of water, which emits a smell by no means agreeable. Those most frequented are the Rua Direita and Ouvidor. The former, containing the palace and cathedral, is the broadest in the city. In the latter are the principal shops, and it is the gayest. The streets are paved with blocks of stone. What gives Rio its principal charm, are its suburbs and the small quintas around it. Nothing can exceed the beauty of those around Gloria and Botofogo.

The amusements of riding and fishing, with water excursions, are frequent, and of the most agreeable kind. These and other advantages of so fine a climate soon render a residence at Rio quite desirable. There is much pleasant foreign society, composed of the diplomatic corps, many retired gentlemen, and generally the officers of the several men-of-war of different nations.

There appears to be but little intercourse between the Brazilians and the foreign society. The female sex particularly is still much restricted in this respect; and although great improvement has taken place, yet they seldom mix in social intercourse with foreigners; I am told that even among themselves they are seldom seen except at ceremonious parties. They are very much as one would expect them to be, reserved, retiring, and wanting in education. They dress after the French fashion, and are usually covered with finery, often displaying splendid jewels, without taste. There is none of that ease and gaiety which exists where the fair sex is considered on an equality with the other, and there is a total absence of that tone which a consciousness of their value gives to society. Their usual place of resort during the afternoon and evening is the balconies of their houses; some of them are occasionally seen at church. It is said they soon lose their beauty, an early age being considered as their prime.

Among the many places to which we had the honour of an invitation, was one of their monthly balls, the white-jacket ball, at Praya Grande; so called in consequence of a request being made on the card of invitation, that the gentlemen would come in white jackets, and the ladies appear without brilliants or other jewels. We gladly accepted the invitation.

On reaching the anteroom we were met by the committee of gentlemen, or managers, and kindly greeted without ceremony, making us at once feel at our ease. We were shortly afterwards ushered into one of the most splendid ball-rooms I ever saw. There were upwards of three hundred present, all dressed in pure white, without any finery whatever. The room was brilliantly

lighted. We were shown around, and introduced to a great many persons of both sexes, who all seemed bent on amusement. It was truly a *sans souci* meeting. Seldom have I seen so much good taste as was displayed in the arrangements, or so good a tone of society. A good band of music, all Brazilians, played waltzes and marches alternately. I was told there were many distinguished persons, senators, representatives of the congress, &c., present.

The language generally spoken was Portuguese, though some few of the ladies, and many of the gentlemen spoke French. I was not much struck with the beauty of the ladies. The great charm thrown over the whole was the unaffected manners and *naiveté* exhibited by the whole company.

Our repairs in Rio were extensive, particularly those on the Peacock. Among other things, the head of the mizzen-mast had to be cut off eighteen inches, in consequence of a defect in it, which it appeared had been filled up with rope-yarns and putty, and painted over, at her outfit. The defects about the vessel were so glaring, that in going to the high latitudes, it would have been impossible to secure the crew from great suffering and exposure. Even in the state in which the squadron was now put, I had every apprehension of the greatest disasters. The Peacock, particularly, was wholly unseaworthy with respect to such a cruise.

The uncertainty of the length of time I should be detained rendered it impossible for me to allow long absences from the ship. I was anxious to have made some measurements of the Organ Mountains, and that our parties should extend their researches beyond them to the Campos.

Dr. Pickering and Mr. Brackenridge succeeded in making the trip to the Organ Mountains on a botanical excursion; but the outfits and duties connected with the vessels and observations, made it impossible for me to spare any officers to make the measurement of their height or to go myself. These gentlemen set out, having taken passage in the usual freight-boat (felucca rigged) for Estrella, embarking their horses and mules in another. These boats are not decked, and are of sufficient tonnage to make them safe and convenient freight-boats. They generally have four or five slaves, with a padron to manage them.

A little incident that occurred to these gentlemen will show the difficulties to be encountered in obtaining specimens. They had observed, for a few days, a beautiful yellow flowering tree, that was very conspicuous in the forest. Believing that it could be easily come at, they made the attempt to reach it, but without success, finding it, instead of being low, a high and inaccessible tree. They then directed their steps to others, but were disappointed again. Determined not to be foiled in their pursuit, they again went off in search of others in sight; these, to their surprise, were on the opposite side of a river. Nothing daunted, Mr. Brackenridge crossed it, though deep, and endeavoured to scale the tree. What had appeared near the ground, now proved a tree of some sixty feet in height, with a smooth and slippery bark; and he returned to his companion empty-handed. Dr. Pickering next made the attempt.

After crossing the stream with difficulty, he reached the desired object, and endeavoured to climb, but after reaching some forty feet, was obliged to acknowledge himself vanquished.

A few days before our departure, we made a trip to the top of the Corcovado. The naturalists who were of our party observed that almost a total change had taken place in the plants since their last visit, about a fortnight before. I took with me the necessary instruments to measure its height, and we all amused ourselves with collecting plants, insects, lizards, &c. We took the road that turns off near Gloria, and even before we began to emerge from the city, several novel kinds of ferns were observed growing on the house-tops and walls. We soon entered coffee plantations, groves of bananas, tamarinds, mangroves, and orange-trees. A vast variety of plants were pointed out to me by Mr. Brackenridge; among them the beautiful Vochysia, with its splendid yellow blossoms, showing conspicuous among the rest. After a fatiguing walk we reached the top. The last quarter of a mile, or the last rise to its summit, causes one to become somewhat breathless in a hot day; but when the top is gained, it is worth all the labour of climbing, and amply repays for the exertion.

The whole of the magnificent harbour, the city, and environs, lay beneath our feet. A bird's-eye view is had of everything grouped in the most pleasing variety; and nothing strikes one so forcibly as the white sandy beaches of Botofogo and Praya Grande, with the beautiful blue of the sea washing on them. The many lakes, the castellated peaks, and the variously-shaped, craggy, and broken hills, are all softened by the light and airy green vegetation, creeping up their sides so as to melt them almost into one. The day was beautifully clear, and the refreshing sea-breeze just what we could desire. To form an idea of the beauty of Rio and its environs, it is necessary to mount to the top of the Corcovado, or some high peak in the neighbourhood.

CHAPTER IV.

THE BRAZILS—RIO NEGRO—TERRA DEL FUEGO.

Character of the Brazilians—Constitution of the Empire—Ruling Party—Elective Regency—Administration of Justice—Elective Franchise—Army—Navy—Schools—Slavery—Feeling towards Foreigners—Population—National Debt, Revenue, and Expenditures—Commerce—Departure from Rio—Passage to Rio Negro—Arrival there—Guachos—Description of the Country—River and Tides—Climate—Vegetation—Convict Settlement—Communication with Buenos Ayres—Departure from Rio Negro—Staten Land—Straits of Le Maire—Appearance of Terra del Fuego—Its Harbour—Meeting with the Relief—Natives—Intercourse with them—Arrival at Orange Harbour.

DURING my stay at Rio, I had an opportunity of seeing several intelligent gentlemen who had long been residents of the country; I am indebted to them for much information relative to the political state of this empire. Brazil, though quiet at the time of our visit, will long be destined to outbreaks and alarms, either from local oppression or some slight political movements. The people, for the most part, take very little interest in politics, or in the general welfare of the state. As yet, their habits make them averse to mental exertions, and they generally prefer their own ease, which precludes them from engaging in political excitement. They are not yet sufficiently advanced in civilisation and education, so far as regards the mass of the population, to rise from the mental degradation which the policy of the mother country entailed upon them.

The Brazilians, from the character I have received of them, are very ceremonious and punctilious, susceptible of flattery, suspicious yet courteous, selfish, cunning; assuming frankness and generosity, timid, unsteady in purpose, and without any large and comprehensive views. What is claimed from them as a right, in a bold and confident manner, is readily yielded, while often through their ignorance they become presumptuous.

The people are further advanced in morals and intelligence than their government, but as yet they are not sufficiently enlightened to know their power. They are slow to act, and appear very patient under oppression. Long endurance of despotism has made them so.

The new constitution was adopted in 1825. This secured the legislative power from further interruption, and achieved a complete victory over the bayonets and tyranny of Don Pedro, by forcing him, through the threats of the people and his fears, to grant a more liberal constitution. Political freedom seems to have made rapid advancement through the freedom of the press; but the advantages of a free and frequent interchange of sentiments are almost entirely

unknown. A long time will probably elapse before there will be any political struggle among them. They are prospering in their private concerns and contented, without any ambition to advance themselves in political knowledge.

Every exertion is making to give the young Emperor a good education, and his talents are well spoken of.

The administration of justice is confided to two high tribunals, which are open to the public, and where causes are decided on appeal by a majority of the judges.

These tribunals are, first, the relaçào, of which there are two branches, one at Rio and the other at Bahia, each composed of eight judges. Second, the supreme tribunal of justice of twelve judges. The inferior courts are those for the trial of civil and criminal cases, an orphans' court, and a court and judge of findings and losings, the last of which is not yet abolished, however obsolete it may have become. Great corruption exists in them all, and no class of people are so unpopular as the judges. It is generally believed, and the belief is acted upon, that to obtain justice, all classes, including priests and laymen, lawyer and client, legislators and people, regents and ministers, must submit to great imposition; that it is next to impossible to recover a debt by law, except through bribery. If a debtor has money or patronage, and refuses to pay, it is difficult to obtain the payment even of an acknowledged note of hand through the process of the law, and it generally takes years to accomplish.

It is, however, greatly to the praise of the Brazilians, that it is not often necessary to have recourse to law for this purpose. The greatest injustice occurs in the orphans' court; but the court of findings and losings is one of the most singular in this respect. It takes charge of all things lost and found, making it the duty of a person finding anything to deposit it with the judge. The loser, to prove property, must have three witnesses to swear that they saw him lose it, and three others that they saw the finder pick it up, otherwise it remains in deposit. To show the working of this system, a gentleman of Rio found a bank-note of four hundred milrees (about 250 dollars). The owner went to him and claimed it, proving satisfactorily to the finder that the identical bank-note was his, upon which the finder gave it up. The judge of findings and losings heard of the circumstance, sent for him, and asked a statement of the case, which the finder unsuspectingly related. The judge praised his honourable conduct, and was punctiliously polite. The next day, however, he issued an order for the deposit of the money found; and because it was disregarded, the finder, a respectable foreign merchant, was arrested in the street and sent to prison, to be confined with common criminals. The jailer, however, having private apartments for those who could pay for them, he became his guest, and was preserved from the disgust of being a close prisoner, and the companion of degraded and depraved wretches. Before he could regain his liberty, he had to pay the amount found, the decision being the forfeiture of a like sum, together with the jailer's fees.

The justices of the peace for each district are elected by the people, four at a time, to serve as many years by turns, substituting one for the other, when sickness or other circumstances prevent either from serving. They have final judgments in amounts not exceeding sixteen milrees. In cases of civil process, they act as mediators to effect a compromise and reconcile difficulties. Their political attributes are to preserve the peace in case of riot or disorder among the people; and they have a right to call on the national guard or military police to aid them, who must act under their direction. There is no civil police, and no imprisonment for debt. Trial by jury was at first limited to political offences and violations of the liberty of the press, but it is now extended to criminal cases, and in some instances to civil suits. Sixty persons compose the jury, and forty are necessary to try causes. The juiz de decrito (judge of law) sits with them in court, acts as president, and applies the law to the cases the jury may decide. Jurymen serve for one year, and are chosen in the following manner:—In each district the vigairo (vicar), a justice of the peace, and a member of the municipality, select from a list of male parishioners those qualified in their judgment for jurymen, and submit the names to the municipality, who, assisted by the vigairo and justice of the peace, purge the list of such as may be considered improper persons. It is then officially communicated by the municipality to the justice of the peace, and posted up for public inspection in the office, and on the doors of the parish churches throughout the district.

To entitle any one to vote at an election, he must have an income of two hundred milrees per annum, from property, trade, labour, or employment of any kind. The vigairo sits with the judges at elections, to decide on the qualifications of voters. Friars or members of religious fraternities are not entitled to a vote. Free blacks have all the civil rights, and vote at elections the same as white men.

The attorney-general of the nation is the accuser in all criminal cases. Criminals have the right of counsel.

It may be said that there is no standing army in Brazil, for the few troops do not merit that name. A military staff on a large scale is supported, with a large corps of military police, and a national guard. The national guard is organised by law, and in it all males, from eighteen to forty-five years of age, are enrolled. They are equipped at their own cost, the nation furnishing arms and ammunition only. Detachments of this guard are on duty daily at the palace and public offices.

The navy is not effective; they want seamen, and are not likely to have any. A naval academy is established for the education of cadets, or midshipmen. Here they enter at twelve years of age, receiving some of the first rudiments of education, and remain four years. After passing an examination, they are sent to sea, serve there four years, and, if found qualified, are then promoted to second lieutenants.

The military academy they enter later, remain seven years,

passing through various courses of study, and, if found competent, they are made lieutenants. From what I understood, the system of education is very imperfect.

Schools for educating the people have been established, and the female sex are now allowed to be educated.

Agriculture is extending; and the slave-trade, since the treaty with England, has been prohibited; but large numbers of slaves are still easily smuggled by the connivance of the authorities; and although many are captured by British cruizers, yet it is said that more than one-half of the vessels escape, and smuggle the slaves into the small rivers and harbours, bribing the collectors, who permit them to be landed. After landing, the slaves are driven into the woods, where they are secreted until they are sold to the planters in the interior.

The slaves do not increase, as procreation is prevented as much as possible. The two sexes are generally locked up at night in separate apartments. The number of slaves imported into Rio and Bahia previous to the prohibition of the slave-trade, in 1830, was about forty thousand a-year for the former, and ten thousand for the latter, as follows:

	RIO.	BAHIA.
1828	41,913	8,860
1829	40,015	12,808
1830 half year	29,777	8,588

About one-third of these were lost by death, leaving two-thirds as an accession to the labour of the country.

The number annually imported since 1830, contrary to law, is estimated at seven to ten thousand.

In speaking of the apprehension of a rise of the blacks in the provinces, the well-informed seemed to entertain no kind of fear of such an event. I was told that Bahia was the only point at which insurrections were ever likely to occur, and this was from the prevalence of the Minas slaves, who are very intelligent, and capable of forming organised bodies, which they occasionally have done. The slaves of the other provinces are of a mixed character, incapable of any organisation, and from having been taken from different tribes on the coast, they are more or less hostile to each other, and would be opposed to any such union.

The Brazilians have great respect for foreigners who are not Portuguese. The latter are detested. They have a strong bias in favour of the United States and the American government generally. They think the time is approaching which will unite the people of this continent in a distinct national policy, in contradistinction to that of Europe, and in rivalry to it. They are vain of their own country and its institutions, and firmly believe that a high destiny awaits Brazil. The government, in its political relations with other countries, is seemingly confiding and liberal.

The population of the empire, taking the last returns of the members of the Chamber of Deputies as a guide, is estimated at five

millions. No census has yet been taken, but it is thought to exceed this number. The scrutiny formerly exercised by the government into their domestic affairs, it is said, caused them to conceal the actual number of persons in their families. Of the above number about two millions are slaves. The population of Rio in 1810 was estimated at forty thousand; in 1838 it was two hundred and fifty thousand.

The national debt of Brazil amounts to one hundred million milrees, or sixty million dollars. The revenue was about sixteen million of dollars for 1838. It is derived principally from exports and imports.

The imports amounted to over twenty millions of dollars, but the amount of exports is variously stated. Coffee is the great staple, and more than one hundred and twenty million of pounds were exported in 1838. It is derived from the central provinces, and the exports of it have more than doubled within the last ten years. The exports of the southern provinces are mostly confined to hides and tallow; those of the northern, to sugar, cotton, and tobacco.

The trade with the United States has greatly increased. Within the last few years, from one hundred and sixty to one hundred and seventy American vessels take and bring cargoes to and from the United States, and some foreign vessels are engaged in the same trade. The consumption of American flour in Rio and the neighbouring country has been, during the same year, about one hundred and twenty thousand barrels.

On the 6th of January, everything being ready, we weighed anchor, and dropped down the harbour.

The winds proved light and variable during our passage to Rio Negro, and we occasionally experienced a south-westerly current, of little strength. On the 18th of January, when seventy-eight miles distant from the mouth of the Rio la Plata, we passed through the discoloured water of that river.

On the 25th we discovered the coast, which is a line of low sand-hills, without trees, and it exhibits little appearance of vegetation. In the evening we anchored off the bar. Having been led to believe we should be boarded by pilots on our anchoring off the bar, I was a good deal surprised to find none, and no endeavour making to board us, although the sea was quite smooth. The only appearance of inhabitants which we could see with our telescopes, were a few horsemen suspiciously reconnoitering us from the flag-staff, on the top of the hill. I then concluded to despatch the Sea-Gull, under Lieutenant-Commandant Ringgold into the river, for the purpose of having communication with the town, directing him to take the channel leading to the northward and westward, as shown by the only chart we had, whilst I followed in the Flying-Fish, with the scientific gentlemen; it proved to be the wrong one, and on the tide falling the schooners both grounded. Our situation was not the most agreeable; for, in the event of the sea rising, we should have been exposed to all the fury of the surf, without any escape from the numerous sand-bars. The Sea-Gull, having got off, finally succeeded

in getting into the river, after thumping heavily over a sand-bar, with some fears on the part of the passengers, but without injury to the vessel, and anchored, after dark, about half a mile up the river.

Shortly after the schooner anchored, a voice was heard from the shore, ordering a boat to be sent immediately, when a party landed, but no one was found to receive them. Seeing a light at a distance, they proceeded towards it; it proved to be the pilot's house, a long, low, barn-like building; but no inhabitants were visible, and none made their appearance until our party had taken a survey of the premises. The furniture was of a rude and scanty description; a table, bench, two or three bunks in one corner, and in another a number of arms, consisting of cutlasses, carbines, and pikes, in good order; in the others, various accoutrements. The two pilots, one an Englishman and the other a Frenchman, with a negro, then made their appearance, and unravelled the mystery, by informing them that the vessels had been mistaken for the French squadron, and much alarm had been created by our visit; they also said that the guard of about thirty Guachos were in ambush near where they landed, with the intention of cutting our party off; but hearing them speaking English, they found, to their satisfaction, that they were not French. They also stated that all the inhabitants living near the mouth of the river had fled to the town, and that most of the women and children in the town were hurrying off to the interior. They were likewise employed driving off the cattle, and preparing to fire the country, the usual mode of warfare, and were rejoiced to identify us as Americans.

All this accounted for the reconnoitering that we had observed, and our not being able to obtain a pilot. What still more alarmed them was the different vessels firing while surveying, and our making the attempt to force the passage in the small vessels.

The captain of the coast-guard now afforded all facilities, and a pilot for the schooner was sent on board to take her up the river, and horses and guides were furnished for a party to visit the town.

The next morning a detachment of lancers arrived from the governor, with orders not to allow our vessels to proceed up, and that the pilot should come on shore, which effectually put a stop to our plans; when Lieutenant-Commandant Ringgold determined to go by land.

It caused much alarm to the pilot, who entreated the officers to intercede with the governor in his behalf, and for that of the captain of the coast-guard, stating that their lives would be forfeited for having attempted to pilot a vessel without the governor's orders. After some delay, a party proceeded to Carmen, under the escort of Guachos, to wait on the governor or commandant. On their way they met with a cordial welcome from all they passed, as the minds of all were now entirely relieved from fear, and great delight was expressed at seeing the North Americans.

These Guachos are generally well made, tall, and muscular, with swarthy complexions, black eyes, and long hair, very large

mustachios, and remarkably small feet. Their costume is a red striped shirt, and white drawers, large, loose, and fringed at the bottom of the leg, called *calzoncillas*. Their trowsers (*chilipa*) consist of two yards of scarlet cloth, which is sometimes ornamented at the corners; to form this into anything like a garment appeared strange enough; yet, when it is on the wearer, it has the appearance of a pair of Turkish trowsers. The mode in which it is put on is to confine the ends round the waist by a girdle (*triando*), the middle of the cloth passing down between the legs, while the ends fall over the girdle. On the head was worn a red, conical cap, surmounted by a tassel.

Their riding-boots or leggings are made of the hide from the leg of a horse. This is stripped off and put on the leg while yet green, where it is suffered to dry, and remain until worn out. They fit very closely to the foot, like a stocking. The two largest toes of each foot were uncovered, for the convenience of putting them into the stirrup, which is only large enough to admit them. A long knife in the girdle completes the dress.

The Rio Negro is navigable for boats to the village of Chichula, two hundred miles from its mouth.

The distance across the country to Buenos Ayres is but five hundred miles, yet it requires fifteen days to communicate with it; the governor had received no advices or information for the last two months from that place. The route is very uncertain, owing to the hordes of hostile Indians.

Grain, fruit, and vegetables thrive well, and with proper industry might be produced in abundance.

The climate is delightful, and cold weather is seldom felt, although ice has occasionally been seen a quarter of an inch in thickness.

Bullocks and horses are the principal articles of trade; indeed they constitute the legal tender of the country. The former are worth from five to ten dollars, according to age; wild horses, two or three dollars, and if broken to the saddle, ten or fifteen.

The tariff of duties is the same as at Buenos Ayres, but the late reduction of thirty-three per cent. during the blockade did not extend to this place.

The Indians that are accustomed to visit this place (Carmen) for the purpose of war or trade, are of four different tribes, viz., Pampas, Ancases, Tehuiliches, or Teheulehes, and Chilenos. The two former occupy the territory to the north of the Rio Negro as far as the Rio Colorado. The Tehuiliches are from the mountains to the south, and the Chilenos from the southwest.

During the infancy of the settlement, and until of late years, these Indians were extremely troublesome, making descents upon the place, and ravaging the outposts, waylaying all who were not on their guard, killing them, and retreating rapidly on their wild steeds, with their booty, to the pampas and mountains. The Spaniards frequently retaliated, and, by the superiority of their arms and discipline, inflicted summary punishment on them. The last attack of the Indians was made in 1832, when they met with such an overwhelming defeat, that they have not ventured to

make another ; yet the garrison is always kept in anxiety for fear of attacks.

The weapons usual in their warfare are a long lance and the ballos, such as is used in taking the ostrich and throwing cattle, which they use with great dexterity. This consists of a thong of hide, four feet in length, with a leaden ball at each end, which the horseman grasps in the middle, and gives the balls a rotary motion by whirling them above his head, then dashing on to the attack, he throws it when within range with unerring aim, and seldom fails to disable his enemy. The Indians who are most feared are the Chilenos. The Tehuiliches, notwithstanding their immense size, are considered little better than cowards.

All the information gained here tended to confirm the general impression that the Tehuiliches or Patagonians are above the ordinary height of men, generally above six feet ; and the minister asserted that he had often seen them above seven English feet. We had not any personal opportunity to verify this statement, the Indians being only in the habit of visiting this post once a year, to obtain supplies, viz. : in the month of March, at which time a vessel usually visits the place.

The few Indians who inhabit the huts or toldos on the opposite side of the river are converted, and are termed Indios Mansos ; they are a mixture of all the tribes, and so much changed in habits and dress from their former condition and mode of life, that an accurate idea could not be formed of their natural character. They were none of them above the middle height ; their limbs were usually full and well formed ; their complexion a brownish copper, with coarse straight black hair, growing very low on the forehead ; this is suffered to grow long, and hangs down on both sides of the face, adding much to the wildness of their appearance. Their foreheads are low and narrow towards the top, their eyes small, black, and deep set. Some were observed with their eyes set Chinese-like. The resemblance was somewhat increased by the width of the face, which was a particular characteristic. The nose is usually a little flattened at the root, and wide at the nostrils, the lips full and the chin not prominent. The expressions of their countenance betoken neither intellect nor vivacity. The men were generally decked out in tawdry finery, partly after the Spanish fashion ; the women had only the chilipa to cover their nakedness.

Of the Ancases very little appears to be known ; they live towards the north, speak a peculiar language, and are inferior to the rest in stature.

The Chilenos are derived from the western side of the continent, and are predatory bands of the great Araucanian nation.

The Peulches, including the Pampas and Tehuiliches, Falkner, in his account of this country, describes as inhabiting the portion south of the Rio de la Plata, and to the east of the Cordilleras ; they are scattered over the vast plains of the interior. Those to the north of the Rio Colorado are generally known under the name of the Pampas Indians ; they call themselves Chechehets. Those to the south of that river are termed Tehuiliches ; they

inhabit the table land between the Cordilleras and the desert plains of the coast.

These people are represented as of gigantic stature, and it is said by the residents that those from the south are generally taller than those from any other part; and Indians are said to have been met with who are distinguished for their gigantic height and well-formed limbs; but this rests on vague authority.

The Guachos and Indians are of course good horsemen, being trained to it from their infancy. Indeed they may be said to live on horseback, and it is very seldom that they are seen to walk any distance, however short.

Their dress, although uncouth and ill-arranged, is comfortable, and picturesque when they are on horseback, particularly when at full speed in search of a bullock to lasso. The ease and nonchalance with which a Guacho mounts his steed, arranges himself in the saddle, quietly trotting off, lasso in hand, to select his victim, and detach it from the herd; then the eager chase, the furious speed of the horse, the flying dress of the Guacho, with upraised arm whirling his lasso, the terror of the animal, the throw of the lasso, and instantaneous overthrow of the bullock, all the work of an instant, excited both our admiration and astonishment. Nothing can exceed the animation of both horse and rider on these occasions.

Mr. Waldron, our purser, made an endeavour to purchase some vegetables for the crews from an estancia on the river-side, of which an old Spaniard was the owner, thus affording him an opportunity of disposing of many of them; but the conditions were, that the articles must be on the beach in a few hours, which was ample time to have dug up an acre. As soon, however, as he learned these terms, he shrugged his shoulders, and declared the thing impossible, took down his guitar, seated himself in front of his house, and began to play a lively air, which his two sons accompanied with their voices.

The coast and the banks of the Rio Negro are composed of sand-hills, of from thirty to fifty feet in height, covered with a scattered growth of grass, which prevents the sand from blowing away. These gradually rise to the height of one hundred feet, except to the southward of the river, where the bank is perpendicular; at this height the ground stretches away in a level prairie, without a single tree to break the monotony of the scene, and affords a view as uninterrupted as the ocean.

The only verdure on the prairie is a small shrub, which, when the lower branches are trimmed off, serves a useful purpose. From an optical illusion (the effect of refraction) they appear, when thus trimmed, as large as an ordinary sized apple tree, and one is not a little surprised to find them, on a near approach, no higher than the surrounding shrubs, four or five feet. Shrubs are trimmed in this manner at distances of about half a mile from each other, and are used as guide-posts on the prairie. A similar optical effect is spoken of by travellers on the steppes of Russia.

Game is most plentiful, consisting of deer, guanacoes, and cavias, cassowaries, partridges, bustards, ducks, &c. Armadillos were

common, and the ostrich was frequently seen ; porcupines are also said to be found. The cavias were seen running about in single file, with a sort of halting gait.

The width of the river is less than a third of a mile ; it has a rapid current, and a large body of water is carried by it to the ocean.

No springs were observed in the vicinity, or any trace of running water, except in the river. The water from the rains collects in the depressions, and forms large ponds, covering acres of ground, but only a few inches in depth.

The winters are represented as very mild ; snow does fall, but it disappears in a few hours. Ice is seldom seen, though frosts appear to be frequent in the winter.

The vegetation of the uplands bears the marks of long-continued droughts, in an absence of trees, and the roots of plants penetrating vertically. The stunted appearance of the shrubs, branching from their base, their branches dense, rigid, and impenetrable, usually growing into spines; the smallness of their leaves, and their texture, which is dry, coriaceous, and hardly deciduous ; together with the general brown aspect of the landscape, all denote a vegetation adapted to endure or escape drought.

El Carmen may be termed a convict settlement ; for culprits and exiles are sent here from Buenos Ayres. The garrison is composed of about two hundred soldiers, principally African and Brazilian slaves, brought here during the Banda Oriental war. Among them we found a person who called himself an American, from Rhode Island, by name Benjamin Harden, junior, who was desirous of claiming our protection. He was of small stature, slender make, and a light complexion, with a mild expression of countenance, and about thirty years of age. His story was, that he had been by chance in Buenos Ayres at the time when the government was in want of troops, and that he was seized and compelled to enlist. On inquiring, however, of the governor, it proved that he had been engaged in a riot at Buenos Ayres, in which he had killed two or three men, and committed other outrages, for which he had been condemned to death, but on the intercession of a friend, the sentence was commuted to that of exile as a soldier at this place. His further history is, that not long since he formed the plan of deserting with another convict, by seizing an English trading vessel, in the absence of the captain and part of the crew, and making off with her, which he was fully able to accomplish, being an excellent sailor. The night, however, before the day fixed on for the execution of this plan, he got intoxicated, discovered the whole design, and received the severe punishment of twelve hundred lashes, at three different times.

On the morning of the departure of the schooner, he effected his escape from the town, and swam off to the schooner. He was recognised by an officer, who knew his history in part, namely, that he had become a robber and a murderer, and had been an outcast from his father's house for fifteen years. He was told that he could not be received on board, and a boat landed him again.

On the 3rd of February we got under way, and were glad to leave an exposed and unpleasant anchorage.

On the 13th we made Staten Land, and soon afterwards Cape St. Diego, Terra del Fuego. The land was broken, high, and desolate. The Straits of Le Maire were before us: we were just in time to take the tide, and with a fair wind we sailed rapidly through the strait, passing its whirls and eddies, now quite smooth, but in a short time to become vexed and fretted by the returning tide. The squadron glided along with all its canvass spread to the breeze, scarcely making a ripple under the bows. The day was a remarkably fine one for this climate, and the sight beautiful, notwithstanding the desolate appearance of the shores.

The coast of Terra del Fuego presents the same general character throughout, of high, broken, and rugged land, which appears of a uniform elevation of about one thousand or fifteen hundred feet, with here and there a peak or mountain covered with snow, rising to some four or five thousand feet. The whole wears a sombre and desolate aspect. It may be said to be iron-bound, with many high and isolated rocks, that have become detached from the land apparently by the wear of ages. Numerous unexpected indentations occur all along the coast, many of them forming harbours for small vessels, and some of them very safe ones.

In passing Cape Horn the weather was delightful. We sailed within two miles of this dreaded promontory, and could not but admire its worn and weather-beaten sides, that have so long been invested with all the terrors that can beset sailors. Here we first encountered the long swell of the Pacific, but there was scarcely a ripple on its surface. Although the landscape was covered with snow, the lowest temperature we had yet experienced was 40° Fahrenheit.

On the 17th of February, 1839, at half-past six A.M., anchored in Orange Harbour. Here we found the Relief and tenders, all well.

The Relief, while at Good Success Bay, had an opportunity of communicating with the natives. As the boats approached the shore, the natives began shouting, and advanced towards them on their landing without fear, exhibiting a pleasant air, and apparently with every feeling of confidence; they were all unarmed. An old man, who was the chief, came forward to salute them, first by patting his own breast several times, and then that of each individual of the party, making use of the word *cu-char-lie*, dwelling on the first syllable, and accenting the last, in a whining tone of voice. The meaning of cu-char-lie it was impossible to divine, for it was used for everything. After this ceremony they returned to the thicket, and brought forth their bows and arrows. These people were admirable mimics, and would repeat all kinds of sounds, including words, with great accuracy; the imitation was often quite ridiculous. They were naked, with the exception of a guanacoe skin, which covered them from the shoulders to the knees.

The party of natives were seventeen in number, and with a few exceptions they were above the European height. The chief, who was the oldest man among them, was under fifty years of age, and

NATIVE OF TERRA DEL FUEGO.

PATAGONIAN.

of comparatively low stature; his son was one of the tallest, and above six feet in height. They had good figures and pleasant-looking countenances, low foreheads, and high cheek-bones, with broad faces, the lower part projecting; their hair was coarse, and cut short on the crown, leaving a narrow border of hair hanging down; over this they wore a kind of cap or band of skin or woollen yarn. The front teeth of all of them were very much worn, more apparent, however, in the old than in the young. On one foot they wore a rude skin sandal.

Many of them had their faces painted in red and black stripes, with clay, soot, and ashes. Their whole appearance, together with their inflamed and sore eyes, was filthy and disgusting. They were thought by the officers more nearly to approach to the Patagonians than any other natives, and were supposed to be a small tribe who visit this part of Terra del Fuego in the summer months: they are entirely different from the Petcherais, whom we saw at Orange Harbour.

They had little apparent curiosity, and nothing seemed to attract or cause them surprise. Though they are a simple race, they are not wanting in cunning; and it was with great difficulty that they could be prevailed upon to part with their bows and arrows in trade, which they however did, after asking permission from their chief: this was always necessary for them to obtain before closing a bargain. They have had communication frequently before with Europeans; pieces of many articles of European manufacture were seen in their possession, such as glass beads, &c. They refused tobacco, whiskey, bread, or meat, and were only desirous of getting old iron, nails, and pieces of hoop-iron.

Their food consists principally of fish and shell-fish. Their fishing apparatus is made of the dorsal fin of a fish, tied to a thin slip of whalebone, in the form of a barb; this serves as a good hook, and with it they obtain a supply of this food. Their arms consisted altogether of bows and arrows. The natives had the common dog, which they seemed to prize much.

The prominent plants were Berberes, Winteria, Vaccinium, Andromeda, Compositæ (some woody), Cruciferæ, Umbelliferæ, &c. A number of these were just putting forth their flowering buds. Scurvy-grasses and wild celery abounded.

CHAPTER V.

TERRA DEL FUEGO—SOUTHERN CRUISE.

Orange Harbour—Plan of the Squadron's Operations—Natives—Their Appearance—Their Huts—Their Talent for Mimicry—Their Food—Departure of Porpoise—Whale Ship—Height of Waves—King George's Island—O'Brien's and Aspland's Islands—Palmer's Land—Adventure Islets—Sea-Gull ordered to return—Return of the Porpoise—Elephant Island—Good Success Bay—Boat detained—Attempt to relieve—Accident—Further Attempt to relieve the Party—Porpoise compelled to put to sea—Return to Good Success Bay—Party join—Their Transactions—Leave Good Success Bay—Nassau Bay—Natives—Orange Harbour—Sea-Gull—Deception Island—Temperature—Visit to Crater—Force of Wind—Sea-Gull sent in search of Launch—Loss of that Boat—Arrival of Flying-Fish.

ORANGE HARBOUR is on the western side of Nassau Bay, separated and protected from it by Burnt Island. It is nearly land-locked, and is the safest harbour on the coast. The hills on each side, after several undulations, rise into conical peaks, and the naked rock is everywhere broken into a jagged outline, with no creeping plants to soften or take off its harshness. Everything has a bleak and wintry appearance, and is in excellent keeping with the climate; yet the scenery about it is pleasing to the eye, bounded on all sides by undulating hills, which are covered with evergreen foliage. Distant mountains, some of which are capped with snow, shooting up in a variety of forms, seen beyond the extensive bays, form a fine background. From the vessels, the hills look like smooth downs, and if it were not for the inclemency and fitfulness of the weather, they might be contemplated with some pleasure.

The hills are covered with dense forests of beech, birch, willow, and winter-bark. Some of the former trees are forty or fifty feet high, having all their tops bent to the northeast by the prevailing southwest winds. They are remarkably even as to height, having more the look, at a distance, of heath than of forest-trees.

The whole coast has the appearance of being of recent volcanic rocks, but all our investigations tended to prove the contrary. We nowhere found any cellular lava, pumice, or obsidian, nor was there any granite or other primitive rock seen. The rock was trachytic, or of trap formation, apparently having undergone more or less action by fire.

Immediately on our arrival at Orange Harbour, active preparations were made for a short cruise to the Antarctic.

Agreeably to my instructions, such disposition was made of the squadron as seemed best calculated to obtain the necessary results in the different departments. Captain Hudson, with the Peacock

and the Flying-Fish, under Lieutenant Walker, as a tender, were ordered to the westward, as far as the Ne Plus Ultra of Cook. I went in the Porpoise, Lieutenant-Commandant Ringgold, accompanied by the Sea-Gull, Lieutenant Johnson, to pass to the south, for the purpose, if possible, of exploring the south-east side of Palmer's Land, or, should an opportunity offer, of proceeding further south. The Relief, Lieutenant-Commandant Long, was ordered into the Straits of Magellan, through the Brecknock Passage and Cockburn's Sound, with part of the gentlemen of the scientific corps in order to enlarge our field of operations. Mr. Peale volunteered to go south in the Peacock.

The Vincennes was safely moored in Orange Harbour, and left under the charge of Lieutenant Craven, to carry on the investigations, surveys, &c. &c. Messrs. Couthouy and Drayton, of the scientific corps, remained in the Vincennes. Lieutenant Carr was put in charge of the observatory.

The vessels were well supplied with fuel, provisions, and various anti-scorbutics, for ten months. A spot for the observatory was fixed upon, and orders left for the duties to be performed during the absence of the squadron.

Before our departure from Orange Harbour, a bark canoe came alongside with an Indian, his squaw, and four children. The tribe to which they belonged is known by the name of the Petcherai Indians. They were entirely naked, with the exception of a small piece of seal-skin, only sufficient to cover one shoulder, and which is generally worn on the side from which the wind blows, affording them some little shelter against its piercing influence.

They were not more than five feet high, of a light copper-colour, which is much concealed by smut and dirt, particularly on their faces, which they mark vertically with charcoal. They have short faces, narrow foreheads, and high cheek-bones. Their eyes are small and usually black, the upper eyelids in the inner corner overlapping the under one, and bear a strong resemblance to those of the Chinese. Their nose is broad and flat, with wide-spread nostrils, mouth large, teeth white, large, and regular. The hair is long, lank, and black, hanging over the face, and is covered with white ashes, which gives them a hideous appearance. The whole face is compressed. Their bodies are remarkable from the great development of the chest, shoulders, and vertebral column; their arms are long, and out of proportion; their legs small, and ill-made. There is, in fact, little difference between the size of the ankle and leg; and, when standing, the skin at the knee hangs in a large, loose fold. In some, the muscles of the leg appear almost wanting, and possess very little strength. This want of development in the muscles of the legs, is owing to their constant sitting posture, both in their huts and canoes. Their skin is sensibly colder than ours. It is impossible to fancy anything in human nature more filthy. They are an ill-shapen and ugly race. They have little or no idea of the relative value of articles, even of those that one would suppose were of the utmost use to them, such as iron and glass-ware. A glass bottle broken into pieces, is valued as much as a knife. Red flannel, torn

into stripes, pleases them more than in the piece; they wound it around their heads, as a kind of turban, and it was amusing to see their satisfaction at this small acquisition.

The children were quite small, and nestled in the bottom of the canoe on some dry grass. The woman and eldest boy paddled the canoe, the man being employed to bale out the water and attend to the fire, which is always carried in the bottom of the canoe, on a few stones and ashes, which the water surrounds.

Their canoes are constructed of bark, are very frail, and sewed with shreds of whalebone, seal-skin, and twigs. They are sharp at both ends, and are kept in shape, as well as strengthened, by a number of stretchers lashed to the gunwale.

These Indians seldom venture outside the kelp, by the aid of which they pull themselves along; and their paddles are so small as to be of little use in propelling their canoes, unless it is calm.

Their huts are generally found built close to the shore, at the head of some small bay, in a secluded spot, and sheltered from the prevailing winds. They are built of boughs or small trees, stuck in the earth, and brought together at the top, where they are firmly bound by bark, sedge, and twigs. Smaller branches are then interlaced, forming a tolerably compact wicker-work, and on this, grass, turf, and bark are laid, making the hut quite warm, and impervious to the wind and snow, though not quite so to the rain. The usual dimensions of these huts are seven or eight feet in diameter, and about four or five feet in height. They have an oval hole to creep in at. The fire is built in a small excavation in the middle of the hut. The floor is of clay, which has the appearance of having been well kneaded. The usual accompaniment of a hut is a conical pile of mussel and limpet shells opposite the door, nearly as large as the hut itself.

These natives are never seen but in their huts or canoes. The impediments to their communication by land are great, growing out of the mountainous and rocky character of the country, intersected with inlets deep and impassable, and in most places bounded by abrupt precipices, together with a soil which may be termed a quagmire, on which it is difficult to walk. This prevails on the hills as well as in the plains and valleys. The impenetrable nature of the forest, with the dense undergrowth of thorny bushes, renders it impossible for them to overcome or contend with these difficulties. They appear to live in families, and not in tribes, and do not seem to acknowledge any chief.

On the 11th of March three bark canoes arrived, containing four men, four women, and a girl about sixteen years old, four little boys, and four infants, one of the latter about a week old, and quite naked. The thermometer was at 46° Fahrenheit. They had rude weapons, viz., slings to throw stones, three rude spears, pointed at the end with bone, and notched on one side with barbed teeth. With this they catch their fish, which are in great quantities among the kelp. Two of the natives were induced to come on board, after they had been alongside for upwards of an hour, and received many presents, for which they gave their spears, a dog, and some of their rude

native trinkets. They did not show or express surprise at anything on board, except when seeing one of the carpenters engaged in boring a hole with a screw-auger through a plank, which would have been a long task for them. They were very talkative, smiling when spoken to, and often bursting into loud laughter, but instantly settling into their natural serious and sober cast.

They were found to be great mimics, both in gesture and sound, and would repeat any word of our language with great correctness of pronunciation. Their imitations of sounds were truly astonishing. One of them ascended and descended the octave perfectly, following the sounds of the violin correctly. It was then found he could sound the common chords, and follow through the semitone scale, with scarcely an error. They have all musical voices, speak in the note G sharp, ending with the semitone A, when asking for presents, and were continually singing.

Their mimicry became at length annoying, and precluded our getting at any of their words or ideas. It not only extended to words or sounds, but actions also, and was at times truly ridiculous. The usual manner of interrogating for names was quite unsuccessful. On pointing to the nose, for instance, they did the same. Anything they saw done they would mimic, and with an extraordinary degree of accuracy. On these canoes approaching the ship, the principal one of the family, or chief, standing up in his canoe, made a harangue. Although they have been heard to shout quite loud, yet they cannot endure a noise ; and when the drum beat, or a gun was fired, they invariably stopped their ears. They always speak to each other in a whisper. The men are exceedingly jealous of their women, and will not allow anyone, if they can help it, to enter their huts, particularly boys.

The women were never suffered to come on board. They appeared modest in the presence of strangers. They never move from a sitting posture, or rather a squat, with their knees close together, reaching to their chin, their feet in contact, and touching the lower part of the body. They are extremely ugly. Their hands and feet were small and well-shaped, and from appearance they are not accustomed to do any hard work. They appear very fond, and seem careful of their young children, though on several occasions they offered them for sale for a trifle. They have their faces smutted all over, and it was thought, from the hideous appearance of the females, produced in part by their being painted and smutted, that they had been disfigured by the men previous to coming alongside. It was remarked that when one of them saw herself in a looking-glass, she burst into tears, as Jack thought, from pure mortification.

The men are employed in building the huts, obtaining food, and providing for their other wants. The women were generally seen paddling their canoes.

When this party of natives left the ship and reached the shore, the women remained in their canoes, and the men began building their temporary huts ; the little children were seen capering quite naked on the beach, although the thermometer was at 40°. On the hut being finished, which occupied about an hour, the women went

on shore to take possession of it. They all seemed quite happy and contented.

Before they left the ship, the greater part of them were dressed in old clothes, that had been given to them by the officers and men, who all showed themselves extremely anxious "to make them comfortable." This gave rise to much merriment, as Jack was not disposed to allow any difficulties to interfere in the fitting. If the jackets proved too tight across the shoulder, which they invariably were, a slit down the back effectually remedied the defect. If a pair of trowsers was found too small round the waist, the knife was again resorted to, and in some cases a fit was made by severing the legs. The most difficult fit, and the one which produced the most merriment, was that of a woman, to whom an old coat was given. This she concluded belonged to her nether limbs, and no signs, hints, or shouts, could correct her mistake. Her feet were thrust through the sleeves, and after hard squeezing she succeeded in drawing them on. With the skirts brought up in front she took her seat in the canoe with great satisfaction, amid a roar of laughter from all who saw her.

Their mode of expressing friendship is by jumping up and down.

Their food consists of limpets, mussels, and other shell-fish. Quantities of fish, and some seals, are now and then taken among the kelp, and with berries of various kinds, and wild celery, they do not want. They seldom cook their food much. The shell-fish are detached from the shell by heat, and the fish are partly roasted in their skins, without being cleaned.

When on board, one of them was induced to sit at the dinner-table; after a few lessons, he handled his knife and fork with much dexterity. He refused both spirits and wine, but was very fond of sweetened water. Salt provisions were not at all to his liking, but rice and plum-pudding were agreeable to his taste, and he literally crammed them into his mouth. After his appetite had been satisfied, he was in great good humour, singing his "Hey meh leh," dancing and laughing. His mimicry prevented any satisfactory inquiries being made of him relative to a vocabulary.

Some of the officers painted the faces of these natives black, white, and red: this delighted them very much; and it was quite amusing to see the grimaces made by them before a looking-glass.

One of these natives remained on board for upwards of a week, and being washed and combed, he became two or three shades lighter in colour. Clothes were put on him. He was about twenty-three years of age. His astonishment was very great on attending divine service. The moment the chaplain began to read from the book, his eyes were riveted upon him, where they remained as long as he continued to read. At the end of the week he became dissatisfied, and was set on shore, and soon appeared naked again.

They are much addicted to theft, if any opportunity offers.

Although we had no absolute proof of it, we are inclined to the belief that they bury their dead in caves.

At Orange Harbour there is a black-coloured moss that covers the ground in places, giving it the appearance of having been

burned. Many small ponds are met with, as though the peat had been dug up from the place, and the holes filled with water. There is great plenty of scurvy-grass and wild celery close to the beach.

On the 25th of February, 1839, having completed the arrangements for the southern cruise, the signal was ordered to be made for the vessels to get under way, when I joined the Porpoise. Very many of my crew were desirous of following me, and expressed regrets and disappointment that the Vincennes was not going south. All I could do, was to promise them enough of antarctic cruising the next year, and I believe they are now all satisfied that I kept my word. About seven, A.M. we left the harbour, with a light breeze from the north, having the Sea-Gull, of which vessel Lieutenant Johnson was in charge, in company. On passing the other vessels of the squadron, we received three hearty cheers, which were duly returned.

At the mouth of the harbour, Captain Hudson and the few officers who had accompanied us, took their leave. I must own at that moment I felt greatly depressed, for I was well aware that we had many, very many dangers to encounter before meeting again. But there is a feeling produced by the kind of service on which we were engaged, that gives a stout heart, braces it for meeting almost every emergency that may happen, and causes one to look forward with hope to overcome the difficulties that may lie in the path. After a short time, we saw the Peacock and Flying-Fish under sail, following us.

The wind continued light, with fine weather, until the afternoon. The whole scenery around us was viewed to great advantage, under a mild state of the atmosphere, taking away from it the usual gloomy aspect which a sky, overcast and boisterous, gives. A dense bank of cumuli in the southwest foretold that we were not long to enjoy such moderate weather. About four, P.M., a heavy squall struck us, which soon took us clear of the islands, on our course to the southward.

On the 26th we discovered a sail, which proved to be the whale-ship America, from New Zealand, bound to New York, and afforded us an opportunity of writing home, which we gladly availed ourselves of.

After delivering our letters, we bore away to the southeast, the wind inclining to the northwest, and blowing heavy, with a light and remarkably regular sea following. This afforded me an opportunity I had long desired, for making observations to determine the height of the waves, together with their width and velocity. It is obviously very difficult to do this with correctness. I shall therefore state the means which I adopted, in order that it may be perceived what reliance is to be placed on the results.

The Porpoise was directly ahead of the Sea-Gull, and but two waves apart; the rate of sailing was about eight knots an hour, both vessels being apparently very steady. In heaving the log, I found that the chip, in drawing in the line, was, when on the top of the next wave astern, distant by line three hundred and eighty feet, equal to one-sixteenth of a mile, and the schooner being on the next

wave, was twice the distance, or one-eighth of a mile. The time occupied for a wave to pass from the schooner to the brig was thirteen seconds, taking the mean of many trials, from which none varied more than a second and a half. This gave about twenty-six and a half miles in an hour for their apparent progressive motion. In order to get their height, I took the opportunity when the schooner was in the trough of the sea, and my eye on board the Porpoise in the horizon, to observe where it cut the mast.

This gave me thirty-two feet. The waves ran higher and more regular on this occasion than I have seen them at any other time during the cruise.

We had many albatrosses hovering about, and at times, resting, as it were, immovable in the storm, some gray petrels, and Cape pigeons in numbers. The weather becoming thick, and the temperature of the water having fallen to 32°, I deemed it prudent to heave-to during the darkness.

At daylight on the 1st of March we had snow in flurries, and the first ice-islands were made. They excited much curiosity, and appeared to have been a good deal worn, as though the sea had been washing over them for some time. They were of small size in comparison with those we afterwards saw, but, being unused to the sight, we thought them magnificent. At noon we made land, which proved to be Ridley's Island. It was high, broken, and rugged, with the top covered with snow. The rocks had a basaltic appearance, and many were detached from the main body of the island, with numerous high pinnacles, very much worn by the sea. The surf was too great to attempt a landing for the purpose of procuring specimens. As we closed in with the land, we lowered a boat and tried the current, which was found setting to the north-northwest, two fathoms per hour.

At six P.M. we had several ice-islands in sight, Cape Melville bearing south by east. We now had light winds from the south-south-west.

The north foreland of King George's Island was in sight, and found to be well placed on the charts. The appearance of all this land is volcanic; it is from eight hundred to one thousand feet high. The upper part is covered, and the valleys filled with snow of great depth. Before night we had several other islands in sight, with many bergs, and much drift-ice.

On the 2nd, at daylight, we made O'Brien's and Aspland's Islands to the eastward, with many ice-islands, some of a tabular form, and from half a mile to a mile in length. Through the fog and mist we got a sight of Bridgeman's Island, and stood for it, with the intention of landing on it. The fog cleared off as we approached it, and we could perceive distinctly the smoke issuing from its sides.

This island is about six hundred feet high, and of the shape of a flattened dome.

On the 3rd we filled away at daylight, and stood for Palmer's Land. The birds now had very much increased, Cape pigeons, with the gray and black petrel, and occasionally penguins, swimming about us in all directions, uttering their discordant screams: they

seemed astonished at encountering so unusual an object as a vessel in these frozen seas. At 6h. 30m. we made land, which I took to be Mount Hope, the eastern point of Palmer's Land. By eight, A.M., we had penetrated among the numerous icebergs, until we found it impossible to go further. I have rarely seen a finer sight. The sea was literally studded with these beautiful masses, some of pure white, others showing all the shades of the opal, others emerald green, and occasionally here and there some of a deep black, forming a strong contrast to the pure white. Near to us, we discovered three small islets, and gave them the name of the Adventure Islets; while beyond, and above all, rose two high mountains, one of which was Mount Hope.

The whole area was studded with icebergs, which it now became necessary to get clear of, if possible, before night set in.

It was a day of great excitement to all, for we had ice of all kinds and descriptions to encounter, from the iceberg of huge quadrangular shape, with its stratified appearance, to the sunken and deceptive mass, that it was difficult to perceive before it was under the bow. Our situation was critical, but the weather favoured us for a few hours. On clearing these dangers we kept off to the southward and westward, under all sail; and at eight, P.M., we counted eighty large ice-islands in sight. Afterwards it became so thick with mist and fog, as to render it necessary to lay-to till daylight, before which time we had a heavy snow-storm. The temperature of the water had fallen to 29°; air 28°. At one hundred fathoms' depth we found the former 29°. A strong gale now set in from the southward and westward. The brig's deck was covered with ice and snow, and the weather became excessively damp and cold. The men were suffering, not only from want of sufficient room to accommodate the numbers in the vessel, but from the inadequacy of the clothing with which they had been supplied. Although purchased by the government at great expense, it was found to be entirely unworthy the service, and inferior in every way to the samples exhibited. This was the case with all the articles of this description that were provided for the expedition. Not having been able to satisfy myself as to whom the blame is to be attributed, contractors or inspectors, I hesitate to give their names publicity. The deception is, in my opinion, to be attributed to both.

On the 5th of March the gale had increased. The tender Sea-Gull being in close company, both vessels were in imminent danger. At three, A.M., we narrowly escaped several icebergs. At four, A.M., it blew a very heavy gale from the south-west; the temperature of the air fell to 27°, and that of the water was 29°; the ice formed rapidly on the deck, and covered the rigging, so much as to render it difficult to work either the brig or schooner; dangers beset us in every direction, and it required all the watchfulness we were possessed of to avoid them.

From the state of the weather, the lateness of the season, and the difficulty of seeing around us, not only during the several hours of the night, but even in the day-time, the constant fogs and mist in

which we had been for several hours every day enveloped, rendered our exertions abortive, and precluded the possibility of doing anything more than to attend to the sailing of the vessels. These reasons determined me to give up the endeavour to proceed further south, feeling convinced that the season for such explorations had gone by. I therefore ordered the Sea-Gull to return to Orange Harbour, well knowing that her situation was much worse than our own; directing her to touch at Deception Island on the way, while we proceeded to the northward to examine some of the other islands.

When we bore away I had the intention of passing towards the assigned situation of the Aurora Isles, but I found the crew so much enfeebled by their constant exposure, whilst some of them were infected by incipient scurvy, that I concluded it was better to return to Orange Harbour as soon as possible.

We continued under easy sail, enveloped in fogs, and falling in repeatedly with icebergs close aboard, from which at times we escaped with difficulty.

On the 6th of March the wind shifted to the northward, with snow. On the 7th, while making all way to the northward, the fog lifted, and high land was reported within a short distance of us. A few moments more and we should have been wrecked. This proved to be Elephant Island. We found from its position that we had been set upwards of fifty miles to the eastward, in the last four days, by the current. We passed to leeward of it. The sea was too high to attempt a landing. In the afternoon it cleared, and from our observations we found Cape Belsham, its eastern point, well placed. We passed between it and Cornwallis Island. The Seal Rocks were also seen and observed upon.

We now stood to the northward, and on the 16th we were off the Straits of Le Maire, where I again tried the deep-sea temperature, with a wire sounding line, which parted at three hundred and forty fathoms, and we lost the apparatus. I then made a second experiment, with a line of rope four hundred fathoms in length. The temperature of the surface was 44°; of the water below, 37°. This was about sixty miles to the eastward of the place where I had sounded before, on the 15th of February, when passing around Cape Horn in the Vincennes.

March 17th, we had light winds from the eastward, and a smooth sea, with delightful weather. There was, however, a heavy bank of cumuli to the south-westward, and after a few hours' calm, the wind came from that quarter, and began to blow fresh, accompanied with heavy squalls. We did not succeed that night in reaching New Island, where it was my intention to have anchored and rode out the gale. We in consequence found ourselves the next morning thirty miles to the eastward of our position on the previous evening, having drifted at the rate of three miles an hour. From appearances I inferred that the gale had set in for several days; I therefore determined to make for Good Success Bay, and await the breaking up of the storm, being satisfied we could make little progress to the westward during its continuance.

We anchored in the bay early in the afternoon, when we took our boats and went on shore for a few hours. There was but little surf when we landed, but it rapidly increased, and one of the boats in attempting to pass through it filled, and after several ineffectual attempts did not succeed in getting off. A boat was sent to assist, but returned with a report that no relief could be rendered them, and that they had determined to remain until morning.

In the morning the surf had very much increased. The sea setting in the bay rendered our situation uncomfortable, and somewhat dangerous, as we were exposed to the force of it and the wind, which had hauled to the southeast.

At 1 P.M., being desirous of sending provisions to the party on shore, Lieutenant Hartstein was ordered to take charge of two boats, to communicate with them, and give them supplies.

My intention was to effect this by having a line floated on shore, by which to haul the seal-boat, or yawl, having provisions lashed in her, through the surf, by the party on shore. Instructions to this effect were given to Lieutenant Hartstein, who was enjoined not to risk the lives of the men. We watched them attentively with our glasses. Shortly after they had anchored their boats outside the surf, we perceived Lieutenant Hartstein and three men strapping on their life-preservers, and preparing themselves for a landing in the boat. I felt under great apprehensions of accident. Placing, however, great confidence in that officer's judgment, I was assured he would not risk the lives of the men, and his own, on such an occasion. It was with great anxiety we watched their proceedings; in a few moments afterwards they were separated from the other boat, still apparently making preparations. In an instant they were borne on the crest of the rollers, and immediately disappeared. Some few minutes after the boat was seen bottom up among the rollers. Presently the other boat's crew were seen pulling in haste towards a person; one was picked up, then another. We looked intently for the rest, but no signs of them were seen. We then endeavoured to count the party on shore, and we thought it had increased, but the constant motion of the vessel rendered it impossible to keep our glasses fixed on them for a sufficient length of time to ascertain their number. We now saw the boat returning; it soon reached the vessel, and Lieutenant Hartstein and Samuel Stretch proved to be the two that had been saved. Both were much exhausted. The persons in the boat, while yet at a distance from the brig, to relieve our anxiety, gave us the joyful intelligence that Williams and Moore had reached the shore in safety.

Lieutenant Hartstein, on recovering from his exhaustion, informed me, that on arriving at the surf and anchoring the boat, he found it impossible to carry into effect the intention of getting a line on shore. He then concluded that in the surf-boat, with oars, and a line from the boat outside, they might land with safety. Samuel Stretch, John Williams, and Samuel Moore, volunteered to accompany him. They strapped on their life-preservers, with which they were provided, and were preparing themselves for the trial, when a wave curling without them, carried them forward with rapidity; in an

instant the boat was thrown end over, and they found themselves struggling for life in a furious surf.

Had it not been for the life-preservers, they must all have been drowned. The under-tow assisted in bringing Stretch and himself out (neither of whom could swim), together with the boat. Williams and Moore swam to the beach.

The night proved dark and stormy, and the squalls were furious.

The morning of the 21st dawned with no better prospect. All our endeavours to get a supply of provisions to the party on shore, by kites, &c., failed, and it was now deemed advisable for the safety of the brig, to slip our cables and go to sea, on the making of the flood, which sets out of the bay. Previous to this time, we were employed in supplying the yawl with provisions, intending to leave her as a buoy to our cable and anchor; and, to prevent her from sinking, our India-rubber life-spars were lashed in her.

We did not again reach Good Success Bay until the night of the 25th, after five days' absence, when we found the party had got the provisions, and were all well. At daylight on the 26th they came on board. On the 27th we recovered our anchor, and set sail for Orange Harbour.

On the evening of the 29th, having entered Nassau Bay (it being quite dark), as we were standing, as we supposed, over for Orange Harbour, we heard the surf, and suddenly discovered that we were close in among the kelp; we immediately anchored.

At daylight we found ourselves in a snug cove of Wollaston's Island, and discovered that it was the false pack-saddle to the southward of the island which had served to mislead us.

We were here visited by a canoe with six natives, two old women, two young men, and two children. The two women were paddling, and the fire was burning in the usual place. They approached the vessel, singing their rude song, "Hey meh leh," and continued it until they came alongside. The expression of the younger ones was extremely prepossessing, evincing much intelligence and good humour. They ate ham and bread voraciously, distending their large mouths, and showing a strong and beautiful set of teeth. A few strips of red flannel distributed among them produced great pleasure; they tied it around their heads as a sort of turban. Knowing they were fond of music, I had the fife played, the only instrument we could muster. They seemed much struck with the sound. The tune of "Yankle Doodle" they did not understand; but when "Bonnets of Blue" was played, they were all in motion, keeping time to it. The vessel at this time was under way, and no presents could persuade them to continue any longer with us. There was some disposition in the younger ones, but the adults refused to be taken where the ficklessness of their climate might subject them to be blown off. We found them, also, extremely imitative, repeating over our words and mimicking our motions. They were all quite naked.

I have seldom seen so happy a group. They were extremely lively and cheerful, and anything but miserable, if we could have avoided contrasting their condition with our own.

The colour of the young men was a pale, and of the old a dark, copper colour. Their heads were covered with ashes, but their exterior left a pleasing impression. Contentment was pictured in their countenances and actions, and produced a moral effect that will long be remembered.

On the 30th we reached Orange Harbour. The Sea-Gull had returned safely, having, after parting company, visited, as directed, Deception Island.

The plan of Pendulum Cove by Lieutenant Kendall, of the Chanticleer, with which I furnished Lieutenant Johnson, was found accurate. On their landing, the bare ground that was seen was a loose black earth. The beds of the ravines and the beaches were of a black and reddish gravel, much resembling pumice-stone in appearance. Penguins were seen in countless numbers, or, as he expresses it, "covering some hundreds of acres on the hillside." It was then the moulting season, and they were seen busily occupied in picking off each other's feathers. It was an amusing sight to see them associated in pairs, thus employed, and the eagerness with which the sailors attacked them with the oars and boat-hooks. They were not inclined to submit quietly to this intrusion, and in some instances readily gave battle. Their manner in doing it was to seize the aggressor with their bill, and beat him with their flippers. Their bearing was quite courageous, and their retreat dignified, as far as their ridiculous waddle would permit. They were showy-looking birds, with yellow topknots, and are known as the Aptenodytes chrysocome.

As an accompaniment to these penguins, a small white pigeon (Chironis or sheath-bill) was found here, quite tame. These were easily taken in numbers. They are not web-footed, have red legs and bills, with perfectly white, though not fine plumage. They seem to live entirely on the dung of the penguin, and their flesh is black, coarse, and unpalatable.

Knowing that Captain Foster, in the Chanticleer, had left here a self-registering thermometer in 1829, I directed Lieutenant Johnson to look for it, and note its standing; but he did not find it. Since my return I have received a letter from William H. Smiley, master of a sealing vessel that touched there in February, 1842, stating that he had found the thermometer, and carefully noted its minimum temperature, which was 5° below zero.

Lieutenant Johnson, in company with Assistant-Surgeon Whittle, visited an old crater, at the head of the bay, where a gentle ascent of about four hundred feet brought them to the edge of an abrupt bank, some twenty feet high, surrounding the crater on the bay side. The crater was about fifteen hundred feet in diameter, from east to west, bounded on the west or further side by lofty hills, with many ravines, which had apparently been much washed by heavy rains. This led to the belief that the water found within the crater would be fresh, but its taste, and the incrustation of salt found on its borders, showed that it was not so. Near the east end of the crater, the water boils in many places, sometimes bubbling out of the side of a bank, at others near the water's edge, with a hissing

noise. The surface water was found to be on a level with the waters of the bay, and to be milk-warm. A few inches below it was perceptibly colder. The ground near the Boiling Springs was quite hot. In the vicinity were lying quantities of cellular and scoriaceous lava. The only sign of vegetation was a lichen, growing in small tufts, around the mouth of several small craters, of three or four feet in diameter. From these a heated vapour is constantly issuing, accompanied by much noise. Before they returned to the tender, they were overtaken by a violent snow-storm from the north-east, and with difficulty reached the cove without the boat, having been compelled to leave it at the opposite side of the bay, for the force of the wind was such as to render all their efforts to pull against it useless. This weather continued, with much snow, for three days, when it ceased snowing, but still blew heavy. On the 17th of March they sailed from Deception Island, having left a bottle enclosing reports, tied to a flag-staff. This was afterwards found by Captain Smiley, who mentions in his letter to me, that in February, 1842, the whole south side of Deception Island appeared as if on fire. He counted thirteen volcanoes in action. He is of opinion that the island is undergoing many changes. He likewise reports that Palmer's Land consists of a number of islands, between which he has entered, and that the passages are deep, narrow, and dangerous.

The Sea-Gull was despatched, on the 23rd of March, in search of the launch, which had been absent eleven days. She was overtaken in passing from Hermit Island to that of Evout's, and while in tow filled, broke adrift, and was lost.

On the 12th, the Flying-Fish arrived, bringing news of the Peacock and their operations, which will be detailed in the following chapter.

CHAPTER VI.

SOUTHERN CRUISE—VALPARAISO.

Departure of Peacock and Flying-Fish—Gale—Separation—Defective Outfits of Peacock—Accident to William Stewart—His Death—First Iceberg—Gale—Situation of Peacock—Birds—Aurora Australis—Snow-storm—Flying-Fish rejoins—Lieutenant Walker's Report—Situation of Vessels—Captain Hudson, in the Peacock, resolves to return—Ship on Fire—Flying-fish dispatched for Orange Harbour—Arrival of Peacock at Valparaiso—Find the Relief—Difficulties encountered—Gale—Tower Rocks—Noir Island—Dangerous Position—Loss of Anchors—The Relief proceeds to Valparaiso—Arrival of Flying-Fish at Orange Harbour—Preparations for Departure—Climate—Animals—Birds—Vincennes and Porpoise take their Departure—Sea-gull and Flying-Fish to await the Relief—Vincennes and Porpoise part company—Vincennes' Arrival at Valparaiso—The Peacock there—Arrival of Porpoise and Flying-Fish—Visit to Authorities of Valparaiso—Landing of Instruments—Custom-house Officers—Valparaiso—Description of it—Its Order and Government—Trait of Chilians—Police—Their Signal—Shops—Amusements—Chingano—Dancers—Samacueca—Higher Classes—Dress—Taste for Music—Fondness for Flowers—General Prieto—Honours paid him—Ball—Description of it.

AT ten A.M., on the 25th of February, the Peacock, with the tender Flying-Fish, got under way, and also received parting cheers from the Vincennes and Relief. The heavy squall from the south-west induced Captain Hudson to regain the outer anchorage of Orange Harbour, and remain there during the continuance of the gale. The next morning, the weather proving more favourable, they again got under way, and stood down the bay, with all sail set, and a fine breeze from the northward.

The heavy bank of cumuli that had been perceived in the west, by noon began to devolop itself, and by three o'clock they were under their storm-sails. This gale lasted twenty-four hours, and during its continuance the tender Flying-Fish was lost sight of.

During the gale, from her bad and defective outfits, no vessel could be more uncomfortable than the Peacock; and although every precaution was taken to make the ports tight, yet from their working, it was found impossible to keep them so.

On the 7th, they again had squalls of snow and rain, with strong gales. On the 9th, although the weather had moderated, yet the sea was very heavy, and the ship tossed and tumbled about in every direction. William Stewart, captain of the main-top, was this day knocked off the yard, and in his fall struck the main rigging, but he canted, and fell overboard, when he was seen to lie quite insensible, feet up, supported by his exploring boots, which were supposed to have occasioned his fall. A bow-line was thrown over them, and he

was dextrously drawn on board again. The ship had but little headway, and it would have been impossible to lower a boat, on account of the roughness of the sea; his rescue was, therefore, almost miraculous. Every care was taken of him, but it was soon found that the violence of the concussion had been so great that his lungs had become gorged with blood, and little hopes were entertained of his recovery. After lingering to the 11th, he died. This day they made the first iceberg.

They encountered, during the 17th and part of the 18th, the heaviest gale and sea they had experienced since leaving the United States. The ship was completely coated with ice, even to the gun-deck. Every spray thrown over her froze, and her bows and deck were fairly packed with it. The crew suffered much from the gun-deck being constantly wet; and it being now covered with ice, the ship was damp throughout.

On the 18th the gale continued, with a heavy sea, the winds prevailing more from the south and south south-east. There were many birds about the ship; among them a sheath-bill. Several icebergs were in sight, and at night they had a beautiful display of the aurora australis, extending from south south-west to east. The rays were of many colours, radiating towards the zenith, and reaching an altitude of 30°. Several brilliant meteors were also observed.

On the 19th they had another display of the aurora, and it exhibited a peculiar effect. In the southern quarter there was an appearance of a dense cloud, resembling a shadow cast upon the sky, and forming an arch about 10° in altitude. Above this were seen coruscations of light, rendering all objects around the ship visible. From behind this cloud diverging rays frequently shot up to an altitude of from 25° to 45°. These appearances continued until day dawned. The night was remarkably fine, and many shooting stars were observed. During the afternoon of this day a fog-bank was perceived in the south-western quarter, and they were, a short time afterwards, completely enveloped in a fog so dense and thick, that they could not see twice the length of the ship.

During the whole of the 21st they could not venture to run, in consequence of the dense fog.

On the 23rd it partly cleared, and the fog having been succeeded by a snow-storm, the wind hauled to the west, with a heavy bank of clouds in that quarter. On the 24th, the wind hauling to the northward and westward, brought snow and thick weather, with some heavy squalls. Many icebergs were met with, which were, fortunately, avoided. Some of the icebergs were two hundred feet above the surface of the water, and of a pinnacle shape.

On the 25th they obtained a meridian observation, the first for the last six days, and found themselves in the latitude of 68° S., longitude 97° 58′ W. Here, in the evening, to their great joy, they fell in with the tender Flying-Fish. On her near approach, all hands were turned up, and gave her three hearty cheers. Lieutenant Walker reported to Captain Hudson that he had visited all the

appointed rendezvous, in hopes of falling in with the Peacock. On the 17th, they turned towards the south for Cook's Ne Plus Ultra, and continued their way to the southward. The weather was at times very thick, the ice-islands became numerous, and they occasionally passed a little floating ice. On the 18th the ice became abundant, and floated in large masses around them. At four A.M. the water was much discoloured, and some of the ice also having the appearance of being but lately detached from the land. They obtained a cast of the lead, but found no bottom at one hundred fathoms. At eight o'clock the fog lifted, and discovered, to the amazement of all, a wall of ice, from fifteen to twenty feet high, extending east and west as far as the eye could reach, and spreading out into a vast and seemingly boundless field to the south. Their latitude at this time was about 67° 30′ S., longitude 105° W. The weather becoming thick, they stood to the northward, and soon ran into blue water.

On the 21st, at seven A.M., they saw the ice extending in broken ranges from south by east to north-east, and the sea extending round to the westward. At eight o'clock the water was again much discoloured, and many large icebergs were around. At meridian their latitude was 68° 41′ S., longitude 103° 34′ W., when they again stood to the southward, running among the ice-islands with a fair wind, flattering themselves that they should before noon of the next day get further south than Cook had. In this, however, they were disappointed; for the weather became thick, and they were, in consequence, obliged to heave-to.

On the morning of the 23rd of March their latitude was 70° S., longitude 100° 16′ W. The weather proved clear. In the afternoon they again stood to the southward and eastward for three hours, when they observed the appearance of land, and discovered large masses of ice and numerous icebergs. At midnight the southern horizon was beautifully illuminated with the aurora australis.

On the 24th they had a heavy fall of snow; passed many icebergs, and large quantities of floating ice; got suddenly into large fields of packed and broken ice, extending as far as the eye could reach, in all directions, which, with the accumulation of snow, appeared to be rapidly becoming solid. They lost no time in forcing their way out. All on board were of opinion that, within a short time after they cleared it, it became a firm field of ice. The latitude observed was 69° 6′ S., longitude 96° 50′ W.

Having on two occasions narrowly escaped being closed in by the ice, they had determined to return, and were making their way to the north, when they fell in with the Peacock.

The condition of the Peacock for a winter's campaign was miserable, and on board the Flying-Fish there was no protection in the event of being frozen in. The positive nature of his instructions, combined with the report from the Flying-Fish, convinced Captain Hudson of the necessity of turning the vessels' heads towards a more temperate climate. On holding a council with his officers, he found them all of the opinion that the season for active operations in these

latitudes had passed, and that it was advisable for the vessels to proceed without delay to the north.

The vessels, accordingly, steered to the northward.

The weather, during the cruise south, was exceedingly unfavourable; for, with few exceptions, during their stay in the antarctic circle, they were enveloped in dense fogs, or found only occasional relief from them in falls of snow. The crew during the whole time enjoyed an unusual degree of health, which is not a little surprising; for, since leaving Orange Harbour, the state of the ship had been such as to promote disease. The precautions and endeavours to keep the men dry entirely failed, from the condition of the ship.

On the night of the 29th, a new danger beset them, that of being consumed by fire! At midnight they were aroused by the smell of burning and smoke, issuing from the main hold. The usual orders were given relative to the magazine. The drum beat to quarters. On opening the main hatch, smoke issued out in volumes, and fire was discovered under it, proceeding from a bag in full blaze. This was soon passed on deck, and the fire extinguished. It was fortunately discovered in time, and was found to proceed from a quantity of coffee, which had been put below in the bag, after it had been burnt or roasted, the previous afternoon.

On the 1st of April, in latitude 60° 12′ S., longitude 84° 20′ W., Captain Hudson dispatched the tender to Orange Harbour, with his reports to me, and continued his route to Valparaiso. The last icebergs seen were in latitude 62° 30′ S., longitude 87° 41′ W.; the temperature of air, 33°; of water, 35°.

On the 21st the Peacock arrived in Valparaiso, where to their surprise they found our store-ship, the Relief, which had arrived some days previous.

The Relief left Orange Harbour on the 26th of February, for the purpose of visiting various places in the Straits of Magellan, to afford an opportunity of making investigations, and opening a larger field for our naturalists during the fifty or sixty days they were to be detained on the coast. Most of the scientific gentlemen were accordingly transferred to her; and she was ordered to enter the Brecknock Passage, and thence into Cockburn Sound.

Various difficulties prevented her reaching the entrance to the Brecknock Passage, principally that of keeping too far off the coast on long tracks to the southward.

On the 17th of March, after being at sea twenty days, they approached the coast, and a gale ensuing from the southwest, Lieutenant-Commandant Long, on the following day, determined to run in and anchor under Noir Island. The wind was blowing a gale from the southwest, with thick weather and hail-squalls. Noir Island was discovered under the lee, judged to be about twelve miles distant, when they steered for it. It becoming thick, they did not discover the Tower Rocks until they were almost up with, and just had time to clear them. These rocks presented a magnificent and fearful sight, the sea breaking completely over them. Three anchors were prepared. They rounded the southeast point of the island,

and stood in for the bay. At about five o'clock they anchored in seventeen fathoms, and the anchor took effect.

On the morning of the 19th, the highest point of Noir Island was seen, capped with snow; the wind had abated somewhat, but not enough to permit of their landing in a snug little cove abreast of them. In the afternoon the wind again increased, and another anchor was let go. There was much sea, and the ship rode very uneasy at her anchor. The sea broke tremendously on the reef astern, shooting up in columns, such as are seen to appear under the effect of mirage. After it became dark, the wind shifted to the southward and eastward, which brought the sea from that quarter, and exposed them more both to it and the wind. The anchors shortly after began to drag, and the vessel was urged in the direction of a rock. Fortunately the wind abated towards morning, and came from its old quarter, southwest, more off the land, but still blew with violence.

On the morning of the 20th, one of their chain cables was found to have parted. The chain was hove in with some difficulty, and another anchor let go. The weather towards evening became again threatening, and produced no little anxiety. At nightfall it shifted in the same way it had done the previous evening, blowing again heavily. The ship was felt to be constantly dragging, accompanied by that grating kind of noise of the chain moving on the bottom, which is anything but agreeable. The rock astern, together with the reef toward which the wind and sea were both setting the ship, rendered their situation truly appalling. The prospect of any one surviving, in case they had struck, was extremely slight. The night was dark and stormy, and the dragging continued occasionally until midnight, when they found they had passed and escaped the rock, and were near the reef. They now shipped a heavy sea over the bows, the shock of which was so great that it parted their cables, and their drifting became rapid. From the set of the current, they just cleared the reef. When the point of the island bore east of south, they slipped their cables, wore round, and made sail; and on the 21st, at daybreak, they found thomselves off Cape Gloucester.

The conduct of Lieutenant-Commandant Long, his officers and men, during the perilous situation in which the Relief was placed, deserves great praise; they did their duty in every respect. On the 13th of April, the Relief arrived off Valparaiso without anchors. Commandant Locke, of her Britannic Majesty's ship Fly, in the most prompt and handsome manner, dispatched a boat with an anchor to the assistance of the Relief.

The Flying-Fish arrived at Orange Harbour on the 11th April. The duties of the observatory having been completed, the instruments were embarked, and everything made ready for our departure. During the Vincennes' stay here of sixty days, we found the weather exceedingly changeable.

There were but few days on which rain did not fall during some portion of the twenty-four hours, but seldom heavily; lightning and thunder occurred once during the time. The climate may be called

extremely boisterous, although from the fact of the natives being without any kind of covering, one would suppose it cannot be very variable as to temperature, throughout the year. The want of clothing is not, however, peculiar to all the natives; those seen at Good Success Bay were well covered with guanacoe skins, and are a finer-looking and taller race of men.

The wolf is the only land animal that is a native of the soil. The natives have many dogs.

Of land birds, we found the upland goose, a most beautiful eagle, a few plover, and some small birds. There are great quantities of wild fowl, geese, ducks, and the usual sea-birds, to be seen at all times in the harbour, where they find abundance of food among the kelp.

A number of burnt human bones were dug up in a cave; but whether the natives burn their dead or not, we had no opportunity of ascertaining.

On the 17th April, the time having expired for the return of the Relief, I concluded to leave Orange Harbour with the Vincennes and Porpoise. Believing the Relief had been detained, the Flying-Fish and Sea-Gull tenders were both left to await her arrival for ten days, to take the scientific gentlemen on board, and join us at Valparaiso, in order to prevent detention by the slow sailing of that ship.

On the 20th we took our final leave of these waters, and on the 21st lost sight of land, passing to the northward of the island of Diego Ramieres.

On the 23rd, during a strong gale, we parted company with the Porpoise.

Immediately after leaving Orange Harbour, dysentery made its appearance on board the Vincennes, and ran through the whole ship's company. Some of the officers were also affected. It proved of a very mild type, and readily yielded to medical treatment. Upon our arrival at Valparaiso, it had entirely disappeared. The medical officers were unable to account for it, the health of the ship's company having been very good during our stay at Orange Harbour.

On the 15th we made the land off Valparaiso, and before noon anchored in the bay, where we found the Peacock, and received tidings that the Relief had sailed with the store-ship Mariposa for Callao. The Porpoise arrived on the 16th, and the Flying-Fish reached Valparaiso on the 19th, after having experienced extremely boisterous weather.

On our arrival at Valparaiso, the officers and scientific gentlemen were assigned to such duties as were deemed most desirable to insure the results in the different departments.

The authorities, whom I at once called upon, in company with our consul, were exceedingly kind and attentive, and gave every offer of assistance.

The officers of the customs readily gave permission to land all the instruments.

As I was desirous of avoiding all unnecessary delay, not only on

account of the loss of time we had already met with, but because the season was approaching when the *northers* might be expected, every exertion was made to supply our wants, and through the kindness and attention of our consul, G. G. Hobson, Esq., this was effected in the shortest possible time.

Valparaiso has greatly increased in size and consequence within the last few years, and has become the great sea-port of Chili, and, indeed, of the whole coast. Although it labours under many disadvantages as respects its harbour, which is inferior to others on the coast, yet it is the nearest and most convenient port to Santiago, the capital.

I have had some opportunity of knowing Valparaiso, and contrasting its present state with that of 1821 and 1822. It was then a mere village, composed, with but few exceptions, of straggling ranchos. It has now the appearance of a thickly settled town, with a population of thirty thousand, five times the number it had then. It is divided into two parts, one of which is known by the name of the Port, and is the old town ; the other by that of the Almendral, occupying a level plain to the east. Its location is by no means such as to show it to advantage. The principal buildings are the custom-house, two churches, and the houses occupying the main street. Most of the buildings are of one story, and are built of adobes or sun-dried brick. The walls of the buildings are from four to six feet thick. The reason for this mode of building is the frequent occurrence of earthquakes. The streets are well paved. The plaza has not much to recommend it. The government-house is an inferior building. Great improvements are now making, and many buildings on the eve of erection.

They are about bringing water from one of the neighbouring springs on the hill, which, if the supply is sufficient, will give the town many comforts. On the hills are many neat and comfortable dwellings, surrounded by flower-gardens. These are chiefly occupied by the families of American and English merchants. This is the most pleasant part of the town, and enjoys a beautiful view of the harbour. The ascent to it is made quite easy by a well-constructed road through a ravine. The height is two hundred and ten feet above the sea. The east end of the Almendral is also occupied by the wealthy citizens. The lower classes live in the ravines. Many of their habitations are scarcely sufficient to keep them dry during the rainy season. They are built of reeds, plastered with mud, and thatched with straw. They seldom contain more than one apartment.

The well-known hills to the south of the port, called the "Main and Fore Top," are the principal localities of the grog-shops and their customers. These two hills, and the gorge (*quebrada*) between them, seem to contain a large proportion of the worthless population of both sexes. The females, remarkable for their black eyes and red "bayettas," are an annoyance to the authorities, the trade, and commanders of vessels, and equally so to the poor sailors, who seldom leave this port without empty pockets and injured health.

It was difficult to realise the improvement and change that had taken place in the habits of the people, and the advancement in civil order and civilisation. On my former visit, there was no sort of order, regulation, or good government. Robbery, murder, and vices of all kinds were openly committed. The exercise of arbitrary military power alone existed. Not only with the natives, but among foreigners, gambling and knavery of the lowest order, and all the demoralising effects that accompany them, prevailed.

I myself saw, on my former visit, several dead bodies exposed in the public squares, victims of the *cuchillo*. This was the result of a night's debauch, and the fracas attendant upon it. No other punishment awaited the culprits than the remorse of their own conscience.

Now, Valparaiso, and indeed all Chili, shows a great change for the better; order reigns throughout; crime is rarely heard of, and never goes unpunished; good order and decorum prevail outwardly everywhere; that engine of good government, an active and efficient police, has been established. It is admirably regulated, and brought fully into action, not only for the protection of life and property, but in adding to the comforts of the inhabitants.

The predominant trait of the Chilians, when compared with other South Americans, is their love of country and attachment to their homes. This feeling is common to all classes. There is also a great feeling of independence and equality. Public opinion has weight in directing the affairs of state. The people are fond of agricultural pursuits, and the lower orders much better disposed towards foreigners than in other parts. Schools and colleges have been established, and a desire to extend the benefits of education throughout the population is evinced.

The credit of forming the police is given to Portales. It consists of two distinct bodies, one mounted, the other on foot. The watchmen carry swords only. The former patrol the streets on horseback, while the latter take their particular walk round a square or two, for which they are responsible. A message may be sent through them to the furthest end of the city, and an answer returned, in fifteen minutes. They carry a loud and shrill whistle, the sounds of which are varied as occasion requires, and by it a concentration of force can be effected in a few moments.

When they cry the hour, they all sing the same tune, but the pitch is ranged in accordance with the scope of the voice. Their manner of singing the hour, *Viva Chili, Viva Chili, las dias anda y serena*, is pleasing.

In the morning they add to it a prayer, as *Ave Maria purissima las cinco y media.*

The police adds greatly to the comfort as well as to the safety of the inhabitants. To give an instance of its effects, apothecaries are chosen weekly to keep their shops open all night, and in case of sickness or requiring any aid, one has only to call for the *vigilante*, who takes the recipe and passes it to the next, and so on to the shop, where it is obtained, and returned as soon as possible, without any trouble whatever. They have their particular rounds, and each

door is obliged to have a padlock. If any door is found without it, they put a lock on, for which the owner has to pay a fine of four dollars to the city to have it removed; half is the reward of the vigilante.

The shops are well filled with almost all articles of English, American, and French manufacture. The markets are well supplied. There are no market-gardens in the neighbourhood of Valparaiso, and nearly all the vegetables are brought from the valley of Quillota, about sixteen miles distant, on the backs of mules, in panniers. The mode of bringing grass or clover to market is peculiar; it sometimes almost covers both horse and rider.

There are but few amusements. Among them is a theatre, which is small and inconvenient, and the *chingano*, both of which are usually open on a Sunday evening.

The Chilians are extremely fond of the dance called the samacueca. This may be called the national dance, and is in vogue among the common people. It is usually performed at the *chingano*, which is a kind of amphitheatre, surrounded by apartments, where refreshments, including strong drinks, are sold, and is generally well filled by both sexes. The dance is performed on a kind of stage, under an open shed. The music is a mixture of Spanish and Indian, and is performed altogether by females, on an old-fashioned, long and narrow harp, one end of which rests on the lap of the performer, and the other on the stage, ten feet off. A second girl is seen merrily beating time on the sounding-board of the instrument. On the right is another, strumming the common chords on a wire-string guitar or kitty, making, at every vibration of the right hand, a full sweep across all the strings, and varying the chords. In addition to this, they sang a national love-song, in Spanish, at the top of their voices, one singing a kind of alto: the whole producing a very strange combination of sounds.

The dance is performed by a young man and woman; the former is gaudily decked in a light scarlet jacket, embroidered with gold lace, white pantaloons, red sash, and pumps, with a tiny red cap; whilst that of his partner consists of a gaudy painted muslin dress, quite short, and stiffly starched, not a little aided by an ample pair of hips; thrown over all is a rich-coloured French shawl; these, with well-fitted silk stockings, complete her attire. These last are in truth characteristic of the Chilian women of all classes, and they take no pains to conceal them. One not unfrequently sees the extravagance of silk stockings in the washerwomen at their tubs, and even with their hands in the suds. The dress in general fits neatly, and nature is not distorted by tight lacing, or the wearing of corsets. Nothing is worn on the head, and the hair, parted and equally divided from the forehead back to the neck, hangs down in two long plaits on each shoulder to the waist.

The style of dancing is somewhat like a fandango. The couple begin by facing each other and flirting handkerchiefs over each other's heads, then approaching, slowly retreating again, then quickly shooting off to one side, passing under arms without touching, with great agility, rattling and beating time with

castanets. Their movements are quite graceful, those of their feet pretty, and withal quite amorous; the gestures may be readily understood, not only by the native audience, but by foreigners. I cannot say much for its moral tendency.

The higher classes of females have the name of being virtuous and estimable in their domestic circle, but we cannot say that they are beautiful. They dress their hair with great care and taste. Their feet are small, and they have a graceful carriage.

The French fashion of dress prevails, and they are just beginning to wear bonnets. The advancement of civilisation is rapid; the imitation of foreign habits and customs will soon predominate over those of Chili; and, what is of more consequence, some attention is being paid to their education.

A rather singular occurrence took place at a review of the militia on the Plaiancia, one Sunday, by the president, who was attended by his daughter, and a number of the most respectable ladies of the place. They marched down the line, and afterwards danced with the officers on the field, in the presence of the soldiers. All the South Americans are inveterate dancers, the Chilians taking the lead. The taste for music is general; but, although they have a number of national airs, few have been printed. All the printed music in common use is foreign, as are the instruments. Pianos are to be seen in almost every house.

The natives have a fondness for flowers, although they are but little cultivated. Few gardens are yet to be seen of any consequence. They require constant irrigation the most of the year, which may account for this want. There are two in the Almendral, surrounded by high walls, and kept in tolerable order; and great attention is paid in these to foreign plants.

We happened to be at Valparaiso during the president's visit, which, connected with the late victory and successes in Peru, caused much rejoicing; every possible attention was shown to the chief magistrate, by both natives and foreigners. Among others, he was taken on an aquatic excursion, on board of a small brigantine, decked out with the flags of all nations, and was accompanied by the civil authorities of Valparaiso, the English admiral, and others. On passing the men-of-war, he received the customary salutes from all but ourselves. We could not fire the guns on account of our chronometers. On his passing, however, the rigging was manned, and we gave him several hearty cheers, which, it was said, much delighted the president and his suite, from the novelty of the compliment.

Three balls were given during the stay of the squadron here, in consequence of the visit of the president, (General Prieto;) one in honour of the recent victory of Yungai over the Peruvians; the others by the citizens and foreigners to his excellency. As the former was an extraordinary occasion, a description of it will give some insight into the manner in which they conduct these affairs in Chili. All three were managed in a manner that would have been highly creditable in any part of the world.

The place selected for the great ball was between the walls of two

large unfinished storehouses, a space one hundred and fifty feet long by ninety wide, over which temporary arches were built, the whole covered with an awning lined with blue, and studded with stars, from which were suspended some twenty very handsome chandeliers. The whole was carpeted, and the various pillars which supported the roof were decorated with emblems of the victory and nation. At the end opposite to the entrance was a transparency of General Bulnes, the hero of Yungai, surrounded with scrolls of his deeds. Along the corridors which the piazzas formed, ranges of sofas and seats were placed; on the walls were hung rich mirrors and paintings; the former rested on massive pier-tables, in which hundreds of lights were seen reflected, whilst the graceful festoons of the national flags and pennants formed into draperies, intermixed with wreaths of flowers and evergreens in endless variety, encircling emblematic designs of the nation's glory, produced an effect not easily surpassed. The reception-room of the president was hung with scarlet tapestry, decorated with paintings, mirrors, and pier-tables, and brilliantly lighted with chandeliers, &c.

There were likewise card-rooms, smoking-rooms, supper-rooms, and a dressing-room for the ladies, in which were a number of hair-dressers and mantua-makers constantly in attendance. The whole was well got up, unique, and truly splendid; all Valparaiso had sent furniture of every kind, and even the churches had contributed to assist in the great gala fête in commemoration of the national victory.

The company consisted of about five hundred, one-third of whom were females. Many costly uniforms, of various patterns, and not a little fanciful, added to the brilliancy of the scene.

About ten o'clock, the ball was opened by the president, Don Joaquim Prieto, in person, a novel sight to us. He was dressed in a richly embroidered coat, gold epaulettes, and field-marshal's sash. He danced a minuet with a lady of Valparaiso, whom he had especially selected, after which the dancing became general, consisting of quadrilles, country-dances, and waltzes, besides which they had the lascivious dances of samacueca, cachuca, and lordean. These partake somewhat of the bolero and fandango, or Spanish and African dance.

By way of interlude, marches and national airs were played and sung. The ball did not break up until eight o'clock next morning, at which hour the president and his daughter were escorted home by a procession of the dancers, with the music playing national airs, forming rather a grotesque show to the by-standers, from the interchange of hats and outer garments that had taken place.

On reaching General Prieto's quarters, they sang a national hymn, after which many were invited in, were they again continued dancing until noon.

I should not omit to mention that after midnight the ladies underwent a second operation of the toilet.

The whole equalled, if it did not surpass, any of our own fêtes in the United States; indeed, all who attended were much surprised, having little idea that Valparaiso could have made so brilliant and tasteful a display of beauty and magnificence.

CHAPTER VII.

CHILI.

Chili (continued)—Journey into the Interior—Bilochos—Casa Blanca—Geological Formation—Curacovi—Cuesta de Zapata—Cuesta del Prado—Roads—Transportation of Goods—Beggars—Plain of Maypo—Cordilleras—St. Jago—Mint—Library—Amusements—Fashions—Market—Climate—Excursion to the Cordilleras—Mountain Scenery—Snow—Guanacoes—Heat—Return to St. Jago—Maypocho—Journey to San Felipe—Quillota—Town of San Felipe—Copper Mines—Earthquakes—Population of Chili.

PREVIOUS to my arrival at Valparaiso, the naturalists and some officers on board the Peacock and Relief had made excursions into the interior. On my arrival, I allowed all those who could be spared, and were desirous of visiting Santiago, sufficient leave to make the trip. Several set out for that city, and some with a view of extending their journey to the Cordilleras beyond.

The bilocheros were eager for opportunities to hire their biloches, a vehicle somewhat resembling a double gig, which is generally used for travelling in Chili. They have a most rickety and worn-out appearance; almost every part appears mended with cords made of hide. They accommodate two passengers; and the time required between Valparaiso and the city (Santiago), is about eighteen or twenty hours. In the shafts a horse is put; a postilion rides one on the left, and sometimes another is placed on the right, both being fastened to the vehicle by lassos of raw hide proceeding from the saddle. Each vehicle is attended by three bilocheros or drivers, with a drove of twelve or fifteen horses, forming quite a cavalcade.

The bilocheros are very expert at their business. They are excellent riders, having been brought up to this exercise from their infancy, and understand managing their horses, though in a rude way. Their horses are small, but spirited, and bear fatigue well. Their usual speed is about nine or ten miles an hour. Few equipages can compare with these crazy machines, driven, as they sometimes are, pell-mell up hill and down dale, with all their accompaniments of horses, guachos, &c.; and it affords no small amusement to those on foot, to witness the consternation of the affrighted passengers, in momentary expectation of a break-down. It is a difficult matter to acquire composure, on seeing the numerous temporary lashings, giving ocular proof that accidents have been frequent, however well satisfied one may be with the skill of the conductor. Fortunately the road is excellent, though at this season (May) it is divested of much of its beauty from the want of vegetation. The interest is,

however, carried forward to the lofty peaks of the Andes, of whose summits occasional glimpses are had ; and the eye glances over the surrounding scenery in the immediate neighbourhood, that would elsewhere be deemed grand, to rest on some high and towering peak. Among these the peak of Tupongati is the most noted, ranking, since the measurement of King, as next in height to the Himmaleh mountains.

The first stopping-place is at Casa Blanca, a small pueblo of some five hundred inhabitants, where travellers usually sleep. The accommodations were good, having been recently much improved. In the neighbourhood is the only tract of woodland to be found in this part of the country. The elevation of Casa Blanca is five hundred and ninety-eight feet above the level of the sea.

The road from Casa Blanca next passes through Curacovi, a small pueblo, where the trap rock first makes its appearance, and then over a high ridge, called the Cuesta de Zapata. This terminates the first plain, and divides it from the second, of similar character, which extends to the Cuesta del Prado. It is passed over by a zigzag road, and was found to be two thousand three hundred and ninety-four feet high. On reaching the top, the view that presents itself is extensive and magnificent.

In front is the extensive plain of Maypo, with here and there a conical mountain standing alone on it. At the extremity of the plain rise the lofty peaks of the Andes, covered with eternal snow, some reaching above the clouds. They appear but a few hours' ride off, although at a distance of twenty leagues. On either side rise the high ridges of the Cuesta. Beneath lie grazing grounds, extending over the plain, and covered with flocks and herds. Variety and life are given to the whole by the view of the national road, on which are seen numbers of vehicles, mules, &c., threading their way up and down the mountain-side, laden with foreign and domestic products. This is the only road of any extent for wheel-carriages in the country. It is kept in good repair by convicts, who are seen working in chains. A moveable prison, or lock-up house, somewhat resembling the cages used in caravans of wild beasts, is used for their accommodation and security at night.

The heavy merchandise is for the most part transported in ox-carts of enormous dimensions. Their wheels are clumsy and without tires, and the whole frame is made strongly with timber pinned together. Their perpendicular sides and rounded tops are wattled with cane and covered with bull's hide. No iron is used in their structure ; wooden pins and raw hide lashings seem to answer the purpose better. The yoke is set on the heads of the oxen, behind the horns, and fastened to them. The creaking of these carts may be heard for miles, as the drivers never think of greasing the axles to lessen the friction. They are generally drawn by four or eight oxen.

Lighter articles are transported by mules, and immense numbers of these animals are seen on the road at all times.

The mode of changing horses is truly characteristic of the country. The relays are made as soon as the shaft-horse tires ; he is quickly

taken out, and one of the drove caught with a lasso, and put in his place, when on they go. These relays occur every eight or ten miles; the only relief the poor horses have is a trot out of harness, and without a load. The bilocheros seldom dismount; all is done on horseback. On going up hill, a third or even a fourth horse is soon hitched to the vehicle to assist the draught. The horses are all in good condition, and it is not a little remarkable that they should be so, for I understood that their only food at this season was chopped straw. The teamsters and guachos themselves are equally abstemious. They live mostly upon bread and their favourite chica, which is made from the grape, and resembles cider; but after it has passed through a fermentation, it is quite intoxicating. The mud huts or ranchos, on the roadside, are filled with happy and contented faces.

Begging is common on the road to the city, and is quite a business. The beggars let themselves to the highest bidders, and value themselves according to their deformities. At Valparaiso two days are allowed in each week for begging.

The plain of Maypo, which reaches to the foot of the Cuesta del Prado, is extremely level, and is almost thirty miles in width, extending to the foot of the Cordilleras. The road leads nearly in a straight line over it to the city of Santiago, which is situated on the eastern side of the plain.

The elevation of Santiago above the sea is fifteen hundred and ninety-one feet, upon the third step or plain from the coast. Its entrance is through avenues bounded by high adobe walls, which shut out all the view, except the Cordilleras, which tower above and beyond it.

The more the Cordilleras are viewed, the greater appears their attraction. They have at all times an imposing aspect from the neighbourhood of the city. Their irregular and jagged outline is constantly varying under the effects of light and shade. The rays of the setting sun, with the deepening shadows, throw the innumerable peaks into bold relief, and at times produce yellow and red tints, which give a remarkable character to the whole scene. The red tints are often accompanied with a green hue in the sky. The city is surrounded by many fine orchards, gardens, farms, and grazing grounds. The former being inclosed by high adobe walls, give it a rather unpleasant appearance, until the city is fairly entered, when the streets have a fresh and clean look. The city is laid out in squares. Its streets are well paved, and have good sidewalks. This fresh and clean appearance, we afterwards understood, was owing to a law, obliging all to whitewash their houses and walls once a year, a practice which gives a general uniformity, at least in colour, to the whole, and forms an agreeable contrast with the red-tiled roofs. The houses are mostly of one story, built in the form of a hollow square, from twenty to forty feet wide, round which the rooms are situated. The roof projects so as to form a kind of piazza or covered way. The gateway is usually large, and the rooms on each side of it are not connected with the rest of the building, but are rented as shops. Opposite to the gateway is the

centre window, guarded by a light and ornamental iron frame, painted green or richly gilt. The court-yard is usually neatly paved with small rounded pebbles from the bed of the Maypocho, arranged in fanciful forms: but in many cases they are laid out in flower-gardens, where roses and geraniums are seen in full bloom.

The river Maypocho runs through one portion of the city, and supplies it with water. In the centre of the city is the great plaza, where the public buildings are situated. These are built of a coarse kind of porphyry, obtained from the mountains, and are on a large scale. The cathedral and palace each occupy one side; in the centre is a fountain, with several statues of Italian marble; too small, however, in size, to have any effect in so large a square. All these buildings are much out of repair, having been at various times damaged by earthquakes.

The cathedral is very large and extensive. Its altar is decked with a great quantity of gold and silver. There are many paintings and hangings, among which is a large number of trophies, taken in their various wars. The niches are filled with wax figures, representing saints; and there are also the remains of two martyrs of the church, in a tolerably good state of preservation.

The place was originally built for the viceroy. It is now appropriated to the accommodation of the president, and the public offices. On the side opposite to the palace is a colonnade, which is not yet finished, and will occupy the whole side of the square. Under its portico are fancy and dry-goods shops, and between the columns various trades, or lace and fringe-makers, are at work. In the evening, this becomes a most busy scene. Females, with large flat baskets before them, are vending shoes, fruit, and fancy articles; others are employed in cooking cakes; and the whole, lighted up, as it is, with numerous candles, affords much amusement to the stranger.

The mint occupies a whole square; it has never yet been completed, and has also suffered greatly from earthquakes. The operation of coining is in the rudest and oldest form. The rolling and cutting are done by mule-power, and the oldest kind of fly-press, with a great screw-beam, having enormous balls at the end, is used. The dies employed are made from the male die, in the same way as with us, but they have not the same facilities, and want the modern improvements in the process. A toggle-jointed press was imported from France; but it was soon put out of order by the workmen, and there being no one to repair it, its use has been abandoned.

The library is extensive, containing several thousand volumes, which formerly belonged to the Jesuits, and many curious manuscripts relating to the Indians.

The amusements are not very remarkable. Santiago, however, boasts of a theatre, and a chingano. There appears to be little business doing, and it may be called a quiet city. The siesta is daily indulged in; even the shops are shut in the afternoon, and the city is as quiet as midnight. Towards the cool of the evening the alameda is resorted to. It is a beautiful walk, about a mile in

extent, well shaded, and occupies one bank of the river. It is planted with a double row of poplar trees, which seem to thrive well here. Streams of water are constantly running on each side of the walk. Every few yards stone seats are placed, which are at times filled with a well-dressed population. The alameda affords at all times a cool and pleasant promenade.

The evenings are generally passed at tertulias, in visiting socially, or in shopping in the colonnade. The inhabitants are much addicted to gambling. Monte is the game with the higher classes, whilst that of match-penny is the favourite of the lower orders. The Chilian women are remarkable for their ease of manner, kindness, and attention to strangers. They are fond of diversions of any kind, but more particularly those of dancing and music, both of which are much practised. They seem extravagantly fond of music. Dancing they are taught very young. Most of them have good figures, and some would be called pretty; but their teeth are generally defective, which causes them soon to look old. Their costume varies little from our own, except that the ladies wear no bonnets.

The men follow the European fashions.

The dress of the lower order is a mixture of Spanish and Indian. They are fond of bright colours. Over their shirt and trowsers is worn a blue or brown poncha. A high-crowned and small-rimmed hat, tied on under the chin, over a bright cotton handkerchief on the head, completes their outfit. They are a well-disposed people, and good citizens, and have more the air of contentment than any other nation of South America.

The markets are well supplied. There is one large one near the banks of the Maypocho. It covers an area of four or five acres, and is surrounded by a low building, with a tile roof, supported by columns, under which meats of all kind are sold. The centre is reserved for vegetables, fruits, flowers, poultry, and small wares. The market-women are seen seated under awnings, screens, and large umbrellas, which are used to keep off the sun. The place is scrupulously clean, and has a pleasing effect.

The average price of a horse is twelve dollars, but some that are well broken are valued as high as those in the United States.

The climate of Chili is justly celebrated throughout the world, and that of Santiago is deemed delightful, even in Chili; the temperature is usually between 60° and 75°. The country round is extremely arid, and were it not for its mountain streams, which afford the means of irrigation, Chili would be a barren waste for two-thirds of the year. Rains fall only during the winter months (June to September), and after they have occurred the whole country is decked with flowers. The rains often last several days, are excessively heavy, and during their continuance the rivers become impassable torrents. At Santiago the climate is drier and colder, but snow rarely falls. On the ascent of the Cordilleras, the aridity increases with the cold. The snow was found much in the same state as at Terra del Fuego, lying in patches about the summits. Even the high peak of Tupongati was bare in places, and,

to judge from appearances, it seldom rains in the highest regions of the Cordilleras, to which cause may be imputed the absence of glaciers.

Several of our gentlemen made an excursion to the Cordilleras, in order to get information in their various departments. I regretted they were not provided with the necessary instruments for ascertaining heights. The party left Santiago in biloches, and travelled to the eastward five leagues, to the "Snow Bank," from which the city is supplied. The ascent was gradual, but quite constant, as no intervening ravines occurred. They then took horses, leaving their biloches to return. Their route after this lay up a valley. On the surrounding heights the guanacoes were seen in great numbers.

As they proceeded they found the middle region was marked by spiny plants, principally Burnadesia. The soil was found to be a mixture of loose earth and pieces of rock. On rising higher, the vegetation became almost wholly extinct. Places occurred, of an eighth of a mile in breadth, destitute of verdure of any kind. The party then ascended a ridge belonging to the main body of the Cordilleras, and, at an elevation of about ten thousand feet, they reached its summit. Here they had an extensive view of all the line of the snow peaks. That of Tupongati appeared the most conspicuous, although at a distance of eighty miles. The guide asserted that he could see smoke issuing from its volcano in a faint streak, but it was beyond the vision of our gentlemen. The peak itself, from this view of it, was quite sharp-pointed. The scene immediately around them was one of grandeur and desolation; mountain after mountain, separated by immense chasms, to the depth of thousands of feet, and the sides broken in the most fantastic forms imaginable. In these higher parts of the Cordilleras they found a large admixture of the jaspery aluminous rock, which forms the base of the finest porphyries; also chlorite in abundance. The rock, likewise, contains fine white chalcedony, in irregular straggling masses. Trachytic breccia was observed in various places. The porphyry is of a dull purple colour, rather lighter than the red sand-stone of the United States. No traces of cellular lava were observed, nor of other more recent volcanic productions. No lime-stone was seen in the regions traversed by our parties; all the lime used at Santiago is obtained from sea-shells; nor were any proper sedimentary rocks seen.

Nothing could be more striking than the complete silence that reigned everywhere. Not a living thing appeared to their view.

After spending some time on the top, they began their descent; and, after two hours' hard travelling, they reached the snow line, and passed the night very comfortably in the open air, with their blankets and pillions, or saddle-cloths. Fuel for a fire they unexpectedly found in abundance: the Alpinia umbellifera answering admirably for that purpose, from the quantity of resinous matter it contains. Near their camp was the bank of snow before spoken of, from which the city has been supplied for many years. It covers several acres. The height they had ascended was about eleven

thousand feet, and the Cordilleras opposite them about four thousand feet higher. The view of the mass of the Cordilleras, in its general outline, was not unlike those of Mont Blanc and other mountains in Switzerland.

Mr. Peale went in search of the guanacoes, and succeeded in killing one nine feet in length, and four feet in height. They were found to frequent only the most inaccessible summits, and are said never to leave the vicinity of the snow. They feed upon several small thorny bushes, which impart a flavour to their flesh, and a smell to their excrement, that may be distinguished at some distance from their places of resort. They make a peculiar sound when alarmed, like that of the katydid (Gryllus). This animal is never hunted for the market, though its flesh is good. The Benzoar is often found in its stomach, and is highly prized among the natives and Spaniards as a remedy for various complaints. It is also used as a gum.

All the party suffered greatly from the heat of the sun's rays and the dryness of the atmosphere. Their faces and hands were blistered, and the nose and lips made exceedingly sore, while the reflection of the light from the snow caused a painful sensation to the eyes.

The next day they reached Santiago, whence they returned to the *port*, as Valparaiso is usually distinguished in the country.

Over the Maypocho, at Santiago, there is a substantial stone bridge, with five arches. For nine months of almost every year, the bed of the stream is nearly dry. At the time of our visit it was about two yards wide, and several inches deep; but in the winter and spring, during the melting of the snows, it becomes quite a torrent; and, from the damage that has been done in former times, they have taken the precaution to wall it in on the side of the city, towards the Cordilleras, for several miles, with stone and hard brick. When swollen, it is a quarter of a mile wide, rapid and deep, and would cut off the communication with the surrounding country were it not for the bridge.

The copper mines of San Felipe were visited by a party of the Expedition. The road passes through the town of Quillota, which is embraced within a circumference of three leagues. It contains several churches of simple construction. The "Calle Largo," the longest street, is upwards of a league in length. Its population is ten thousand inhabitants. The houses are all of one story, and are built of adobes, with thatched roofs. There is an abundance of fine building-stone, but in this land of earthquakes it is considered safest to use the lightest materials. Almost every house has a vineyard attached to it, the grapes of which were of good quality, and very abundant. At some places, although the vintage was half gathered, yet the crop still on the vines was such as would have been considered elsewhere an abundant yield. A portion of the grapes rot upon the vines, as the inhabitants have not the industry or inclination to manufacture them, although, by proper attention, they would yield a good wine. As it is, they only manufacture some into a hard and acid wine, called *masta*, or boil the juice down to the

favourite drink of the lower classes, called *chicha*, which somewhat resembles perry or cider in flavour. The small quantity that is not consumed is distilled into aguardiente, and disposed of at Valparaiso. Besides grapes, considerable quantities of wheat and Indian corn are cultivated. Apples, pears, and quinces are also raised. The former are inferior to our own; the latter much superior, and in great plenty.

Oranges were also abundant, but of indifferent flavour.

Quillota is well supplied with water from the river Concon or Aconcagua. The water is led through all the streets and gardens of the place. It is used for all household purposes as taken directly from the gutters, which are the recipients of dirt of every description from the town. For drinking, it is allowed to settle in large jars kept for the purpose.

The intercourse with strangers at Quillota has been much less than at Valparaiso or Santiago, and consequently they are less liberal, and more bigoted. This was particularly shown, about four years previous to our visit, by their burning, in the public square, a large number of Bibles in the Spanish language, along with a heap of immoral and indecent pamphlets, in the presence of the civil, military, and ecclesiastical authorities. These Bibles had been distributed by our countryman, Mr. Wheelwright, who has done so much by his enterprise in introducing the communication by steam along the western coast of South America.

The town of San Felipe is laid out with great regularity, in the form of a square, surrounded by extensive alamedas, which are planted with Lombardy poplars. The population is from twelve to thirteen thousand. In the centre of the town is a large open square, one side of which is occupied by the town-hall and offices connected with the municipality. Opposite are the church and barracks, and the remaining sides are occupied with shops and private dwellings. The houses are all of one story, and are in a good style of building. The better class of houses stand some distance back from the street, and are decorated tastefully with paintings in fresco on the walls. Roses and jessamines were seen in every court-yard, and the gardens are well filled with various fruits, apples, peaches, pears, grapes, pomegranates, oranges, lemons, and quinces; the latter are remarkably fine, and in great plenty. The houses, as in other parts of Chili, have no fire-places; in lieu of which they use *brazeros*, or pans of live coal, when heat is required.

The copper mines are near the summit of the first Cordillera, on the Mendoza road, and about three thousand feet above the level of the sea.

The part of this valley where they are situated is called La Vega of Jaquel. This is the principal smelting-place, the ore being brought here by mules from the foot of the mountain, down whose sides it is thrown from the mines. The descent is about two thousand feet, and very steep.

On the 21st May they set out on mules for the mines, accompanied by Mr. Alderson, and reached them about ten o'clock. Their first act was to change their boots for a pair of raw hide shoes, such

as are used by the miners, in order to insure a safer footing. They now entered the principal gallery, which was about seven feet high and five broad, excavated for about twenty yards horizontally; it then divides into several branches, and these again into others, from fifteen to twenty yards in length.

The greatest extent of any one gallery is about thirty feet. The mountain has been penetrated horizontally to about four hundred feet, in the direction of north-east to east-north-east, as the veins run, and vertically to a depth of about one hundred and fifty feet. Each person was provided with a tallow candle, stuck in the end of a split stick six feet long, and caution was given not to lose sight of the guide, for the galleries, although small, are so numerous, and communicate with each other so frequently, that a person might easily be lost.

The ladders, or rather posts, by which the descents are made, are not a little dangerous.

There appears to be little system in working the mines, and little knowledge of the structure of the rock or the courses of the veins. Mr. Alderson mentioned that a few months previously they had been working for several weeks extending a shaft, without meeting a particle of ore to repay their labour, and they were just about giving up the search, when the mayoral, or master-workman, declaring he would have a last blow for luck, struck the rock with all his force. This detached a large fragment, and, to their surprise and delight, laid open a vein, which proved the largest and richest that had been worked for many years. From this it would appear that the employment is attended with much uncertainty; and after exhausting one of these treasure-deposits, there are no means or signs known to them, by which they can ascertain the best direction to take to discover another.

The manner of labour in the mines is in as rude a state as it was found in the agricultural branches of industry. A clumsy pickaxe, a short crowbar, a stone-cutter's chisel, and an oblong iron hammer of twenty-five pounds' weight, were the only tools. The hammer is only used when the ore is too high to be reached with the pick or crowbar.

The wages are small—from three to four dollars per month, in addition to their food. They are allowed to draw a third of their pay on the last Saturday of every month, and full settlement is made twice a year. They are supplied with clothing and other necessaries, out of which the agent makes a per-centage, and which is charged against their wages.

There is one admirable regulation of the Chilian government, that of not permitting liquors to be brought within a league of any mine, under a severe penalty, which is strictly enforced. The cost of the maintenance of each workman is not great; they are allowed as rations for breakfast four handfuls of dried figs, and the same of walnuts; value about three cents. For dinner they have bread, and fresh beef or pork. Small stores, as sugar and tea, they find themselves.

Having heard much about the rise of the coast, from the effects

of earthquakes, I was desirous of gaining all the information in relation to this subject. From the residents the accounts are so contradictory, that no correct intelligence can be obtained. The decrease in the depth of the bay can be accounted for, and undoubtedly is owing, so far as it has taken place, to the wash of the hills; and the formation of a new street which has been reclaimed from the bay, has given rise to the idea, and it is pointed out as having been built upon ground left dry by the earthquake of 1832. Several of our naturalists made a close examination of the coast in the neighbourhood, the result of which on the minds of all was, that there was no proof of elevation. That changes in the beaches, through the agency of the heavy rollers and the northers that yearly occur, are constantly going on, is quite evident; but these, as one would naturally suppose, increase the shore only in some places, while in others they are wearing it away.

Earthquakes do not appear to happen at any particular season. The great one of 1730 was in July; that of 1751, in May; and those of 1822 and 1835, both of which did much damage, in February.

Slight shocks of earthquakes are experienced very frequently throughout Chili. One during our stay, on the 28th of May, started every one from their beds, but the shock was not repeated. No peculiar state of the weather, or other phenomenon, seems to precede them. That of 1835 nearly destroyed the towns of Concepcion, Talcahuana, Arauco, Angeles, Coluna, Chillian, Talca, and Cauquenes. It was very slightly felt in Valparaiso, and scarcely at all further north. The sea receded in Valparaiso two feet, and returned immediately. The ground seemed to swell under the feet. In Juan Fernandez, it was very severely felt; and the following extract from the report of the then governor of that island to the supreme government, is interesting: "I was walking at the castle of Santa Barbara, with the commandant of the garrison, when we suddenly observed that the sea had come over the mole. Fearing great damage, I hastened to have the boats drawn from under a shed, and prepared for use. At the same moment we heard a loud roaring, as of thunder, and saw a white column, like smoke, rise from the sea, a short distance from the place called '*El Punto de Bacallao*,' and then felt the earth move. The sea retired about two hundred feet, when it commenced returning with great violence. This time it carried nearly everything with it; broke down all the houses and huts but the one recently built of stone and mortar to contain provisions. Happily, this withstood its violence, although the water ascended more than six feet up its sides. It then retired again to its usual height. Constant shocks were felt during the night; and the sea, at the place before-mentioned, continued throwing up water and smoke like a volcano."

Chili abounds with volcanic mountains, but few of them are in an active state of eruption; which may account for the frequency of earthquakes. The peak of Tupongati is the only one in activity in this section. Our travellers to the Cordilleras were not fortunate enough to get a sight of it at night.

The population of Chili may be estimated at one million two hundred thousand.

Santiago contains about sixty thousand inhabitants, and is one of the few South American capitals, perhaps the only one, that is increasing in wealth and population. It has various private seminaries for both sexes, a national institute or college, on a liberal footing, an extensive hospital, a medical college, and a military academy. The Congress meets on the 1st of June every year, when the president delivers his message.

Valparaiso numbers thirty thousand inhabitants, and is one of the most flourishing sea-ports in the world. Its population has quintupled within the last twenty years, and it is rapidly advancing in every improvement, growing out of an increasing foreign commerce, and the enterprise of its inhabitants, fostered and encouraged as they are by government.

The mining districts are to the north, and the grain country to the south. Extensive flour-mills are now at work in Concepcion and its neighbourhood: the machinery is brought from the United States.

There is very little variation in the climate. During what is called the winter, the thermometer occasionally falls for a few hours to 52°, but the mean of it throughout the year, at mid-day, would be 65°. In the evening and morning, it is at 60°.

CHAPTER VIII.

PERU.

Porpoise sails—Difficulties of leaving the Bay—Regulations of Port badly observed—Conduct of the Captain of Hamburg Vessel—Part company with Peacock and Tender—Make the Coast of Peru—Enter Bouqueron Passage—Island of San Lorenzo—Burying-ground—Change of Anchorage to Callao—Vessels in Port—Castle—Description of Houses—Religious Practices—Market—Old Callao—Effects of Earthquake—Vaults for Depositing the Dead—Population of Callao—Road to Lima—Bella Vista—Approach to Lima—Entrance and Appearance—Its Plan—Amusements—Saya and Manta—Its Privileges—Houses—Portales or Arcades—Palace—Fountain—Cathedral—Crypt—Market—Convent of San Francisco—Library—Signature of Pizarro—Classes of Natives—Newspapers—Earthquakes—Climate—Rain—The Rimac.

ON the 26th of May, 1839, the Porpoise sailed for Callao, in order that some repairs might be made on her, which our time here did not admit of.

On the 4th of June we made an attempt to get out of the bay, but were obliged again to cast anchor. At this season of the year, light northerly winds usually prevail, and a heavy swell frequently sets in the bay, making the roadstead very uncomfortable, and at times dangerous. The vessels are too much crowded, and the regulations of the port are not sufficiently attended to.

I was not a little amused with the master of a Hamburg barque, who dropped his anchor so as to foul the berth of my ship, and when he brought up, swung close alongside. He seemed perfectly satisfied with his situation, and apparently knew little about his business, showing all the doggedness of his countrymen. The weather looking threatening, I sent him word to move, stating that in case of a change of wind, he would be greatly injured. He quietly replied that his vessel was made of teak, and that his underwriters or my government would pay his damages, and that he could stand a good deal of grinding! Without more ado, I sent an officer and men, and put him at once out of my way.

On the 6th, we had a breeze from the southward and eastward, and immediately got under way with the squadron, and succeeded in making an offing. As we opened the land to the southward, my view and thoughts wandered in that direction, hoping that still, and at the last moment, the missing tender might heave in sight. But no white speck was seen, nor any thing that could cause a ray of hope that she might yet be in existence; and my fears foreboded what has since proved too true—she and her crew had perished.

On the second day after leaving Valparaiso, we had a fresh gale from the northward, accompanied with much sea. During the

night, in thick weather, we lost sight of the Peacock and Flying-Fish. On the 9th we got beyond the wind, which blows along the coast from the northward, and our weather improved, exchanging fog, rain, mist, and contrary winds, for clear weather, and winds from the south-west.

On the 20th, in the evening, we passed through the Bouqueron Passage, having got several casts of the lead in three and a quarter fathoms water; and by the assistance of the lights of the other vessels, anchored near the rest of the squadron at San Lorenzo, after a passage of thirteen days. We found them all well, and proceeding rapidly with their repairs. The Peacock and Flying-Fish arrived two days before us.

On receiving the reports of the commanders of the different vessels, active operations were at once begun to refit, replenish our stores, and complete our duties. The necessary changes in officers and men were made, in consequence of my determination to send the Relief home. This I resolved to do on several accounts. I have stated that from the first I found her ill adapted to the service; her sailing I saw would retard all my operations, and be a constant source of anxiety to me: and I felt that I already had objects enough, without her, to occupy and engross my attention. The expense was another consideration, which I conceived myself unauthorised to subject the government to, particularly as I found, on calculation, that for one-tenth of the sum it would cost to keep her, I could send our stores and provisions to any part of the Pacific.

We found it necessary to have the Relief smoked, in order to destroy the rats with which she was infested, to save our stores from further damage. During this time the repairs of the Porpoise had been completed, and the usual observations for rating our chronometers, and with the magnetic instruments, were made on shore; and such officers as could be spared, allowed to visit Lima. The naturalists were also busy in their several departments. We remained at San Lorenzo ten days, during which time its three highest points were measured with barometers at the same time. The result gave eight hundred and ninety-six feet for the southern, nine hundred and twenty for the middle, and twelve hundred and eighty-four for the northern summit. Upon the latter the clouds generally rest, and it is the only place on the island where vegetation is enabled to exist. The others are all barren, sandy hills. It is said that the only plant which has been cultivated is the potato, and that only on the north peak. This becomes possible there from the moisture of the clouds, and their shielding it from the hot sun.

The geological structure of the island is principally composed of limestone, clay, and slate. It presents a beautiful stratification. Gypsum is found in some places between the strata, and crystals of selenite are met with in one or two localities. Quantities of shell-fish are found on the shore, and the waters abound with excellent fish.

The burying-ground is the only object of interest here. The graves are covered with white shells, and a white board, on which

is inscribed the name, &c. They appear to be mostly of Englishmen and Americans, and it would seem that the mortality had been great. But when one comes to consider the large number of men-of-war which have been lying in the bay, and the period of time elapsed, the number of interments do not seem large.

It was with much pleasure we greeted the arrival of the Falmouth, Captain M'Keever, whose kindness in supplying our wants, and forwarding our operations, we again experienced. The essential and timely aid he gave me, in exchanging the launch and first cutter of his ship, for materials to build one, which I had brought from Valparaiso for that purpose, prevented our detention here.

On the 30th of June, the squadron went over to Callao.

The bay of Callao is too well known to require much to be said of it. The climate, combined with the prevailing winds, make it a fine harbour. The island of San Lorenzo protects it on the west from the swell of the ocean, but its northern side is entirely exposed; there is no danger to be apprehended from that quarter. A few miles to the north the influence of San Lorenzo ceases; the surf there breaks very heavily upon the beach, and prevents any landing.

The gradual manner in which the extensive plain rises from Callao towards Lima, seems to give a very erroneous idea of the situation of the city. From the bay it is seen quite distinctly, about six miles distant, and does not appear to be elevated; yet I measured the height of Mr. Bartlett's house above the level of the sea by sympiesometer, and found it four hundred and twenty feet. The rise would be scarcely perceptible to a stranger passing over the road, or one who had not a practised eye.

Since my visit to Callao in 1821, it had much altered, and for the better, notwithstanding the vicissitudes it has gone through since that time. A fine mole has been erected, surrounded by an iron railing. On it is a guard-house, with soldiers lounging about, and some two or three on guard.

The mole affords every convenience for landing from small vessels and boats. The streets of Callao have been made much wider, and the town has a more decent appearance. Water is conducted from the canal to the mole, and a railway takes the goods to the fortress, which is now converted into a depot. This place, the sea-port of Lima, must be one of the great resorts of shipping, not only for its safety, but for the convenience of providing supplies. The best idea of its trade will be formed from the number of vessels that frequent it. I have understood that there is generally about the same number as we found in port, namely, forty-two, nine of which were ships of war; five American, two French, one Chilian, and thirty-five Peruvian merchantmen, large and small.

The castle of Callao has become celebrated in history, and has long been the key of Peru. Whichever party had it in possession, were considered as the possessors of the country. It is now converted to a better use, viz.: that of a custom-house, and is nearly dismantled. Only five of its guns remain, out of one hundred and

forty-five which it is said to have mounted. During our visit there the Chilian troops had possession of the country, which they had held since the battle of Yungai. Most of the buildings are undergoing repairs since the late contest.

It is said that the fortress is to be demolished, and thus the peace of Callao will in a great measure be secured.

The principal street of Callao runs parallel with the bay. There are a few tolerably well-built two-story houses on the main street, which is paved. These houses are built of adobes, and have flat roofs, which is no inconvenience here, in consequence of the absence of heavy rains. The interior of the houses is of the commonest kind of work. The partition walls are built of cane, closely laced together. The houses of the common people are of one story, and about ten feet high; some of them have a grated window, but most of them only a doorway and one room. Others are seen that hardly deserve the name of houses, being nothing more than mud walls, with holes covered with a mat, and the same overhead.

The outskirts of Callao deserve mentioning only for their excessive filth: and were it not for the fine climate, it would be the hot-bed of pestilence. One feels glad to escape from this neighbourhood.

The donations to the clergy or priests, at two small chapels, are collected on Saturdays from the inhabitants. On the evening of the same day, the devotees of the church, headed by the priest, carry a small portable altar through the streets, decorated with much tinsel, and various coloured glass lamps, on which is a rude painting of the Virgin. As they walk, they chant their prayers.

The market, though there is nothing else remarkable about it, exhibits many of the peculiar customs of the country. It is held in a square of about one and a half acres. The stands for selling meat are placed indiscriminately, or without order. Beef is sold for from four to six cents the pound, is cut in the direction of its fibre, and looks filthy. It is killed on the commons, and the hide, head, and horns, are left for the buzzards and dogs. The rest is brought to market on the backs of donkeys. Chickens are cut up to suit purchasers. Fish and vegetables are abundant, and of good kinds, and good fruit may be had if bespoken. In this case it is brought from Lima. Everything confirms, on landing, the truth of the geographical adage, "In Peru it never rains." It appears everywhere dusty and parched up.

The situation of old Callao is still visible under the water, and though an interesting object, becomes a melancholy one, when one thinks of the havoc a few minutes effected. The very foundation seems to have been upturned and shaken to pieces, and the whole submerged by a mighty wave. The wonder is that any one escaped to tell the tale.

Two crosses mark the height to which the sea rose. The upper one, one-third of the way to Lima, indicates the extreme distance to which the water flowed; the lower one marks the place whither the Spanish frigate was carried. I very much doubt the truth of either. I can easily conceive that a great wave would be sufficient

to carry a large vessel from her moorings half a mile inland, but I cannot imagine how the water should have reached the height of one hundred and fifty feet at least above the level of the sea, and yet permitted two hundred inhabitants of old Callao to have escaped on the walls of a church which are not half that height.

Outside the walls of the fortress are several large vaults, filled with the dead, in all stages of decay, and on which the vultures were gorging themselves: this was a revolting spectacle. Indeed, it is truly surprising that the higher classes, and those in immediate authority, should not feel the necessity of appearing more civilised in the disposition of their dead. Many are thrown in naked, and covered only with a few inches of sand. Great numbers of skeletons are still seen with pieces of clothing hanging to them. Dogs and vultures in great numbers were everywhere feeding upon the dead, or standing aloof, fairly gorged with their disgusting repast. If anything is calculated to make a people brutal, and to prevent the inculcation of proper feeling, it is such revolting sights as these.

Callao is said to contain between two and three thousand inhabitants, but this number, from the appearance of the place, seems to be overrated. Several new buildings are going up, which proves that notwithstanding the times of revolution, they still persist in carrying on improvements. The principal street is about a third of a mile in length, and is tolerably well paved, with sidewalks. Billiard-signs stare you in the face. This, I presume, may be set down as the great amusement, to which may be added the favourite monté at night.

Coaches, or rather omnibuses, run several times a day to Lima. The old accounts of robberies on the road to Lima, are still fresh in the mouths of strangers. In times of revolution it was infested by robbers, but the steps taken by government have effectually put a stop to them.

On the road to Lima is Bella Vista; but it is in ruins, and has been so ever since the revolution. It was generally the outpost or battle-ground of the two parties, and although the soil in the plain which borders the sea is extremely fertile, consisting of decomposed rock, containing the elements of fertility in the greatest abundance, it now appears a neglected waste. Attention to its cultivation and irrigation would make it a perfect garden. On approaching Lima, the gardens and fields are found to be cultivated and well irrigated. Fields of Indian corn are seen, some fully ripe, some half-grown, and others just shooting up—a novel sight to us. This bears testimony not only to the fineness of the climate, but to the fertility of the soil. The gardens near the city are filled to profusion with fruits of all descriptions.

The road, on its near approach to the city, forms an avenue of about a mile in length. This, in its prosperous days, was the usual evening drive, and afforded a most agreeable one. On each side are gardens filled with orange-trees, the fragrance of whose flowers, and the beauty and variety of the fruit, added to its pleasures. It is now going to decay from utter neglect. Its rows of willows, and the streams of running water on each side, though forming its

great attraction, will, if suffered to remain without attention, be completely destroyed. No one seems to take interest in the public works. So marked a difference from Chili could not but be observed.

At Lima I was struck with the change that had taken place since my former visit. Everything now betokens poverty and decay; a sad change from its former splendour and wealth. This appearance was observed not only in the city, but also among the inhabitants. Whole families have been swept off, and their former attendants, or strangers, have become the possessors of their houses and property.

The country has been a scene of commotion and revolution for the last twenty-five years, of which Lima for a long time was the centre. The fate of Lower Peru being entirely dependent on it and the fortress of Callao, the alternate possessors have stripped it and its inhabitants in every way in their power. It may with truth be designated a declining city.

The neglected walls and ruined tenements, the want of stir and life among the people, are sad evidences of this decay. The population is now said to be about forty-five thousand, although in former times it has been supposed to amount to as many as sixty-five or seventy thousand.

The aspect of the city, especially a bird's-eye view from the neighbouring hills, gives to the eye of the stranger the appearance of ruins. There are few buildings that have the look of durability, and no new ones have been put up for the last forty years. The plan of the city combines more advantages than any other that could have been adopted for the locality. The streets are at right angles, and all sufficiently broad. Those which run with the declivity of the ground, northwest and southeast, have water flowing through their middle. The uses to which these streams are put, and the numerous buzzards that frequent them, give the stranger any other idea than that of cleanliness. The buzzards are protected by law, and may be seen fighting for their food in the gutters, regardless of passers; or sitting on the tops of the houses, thirty or forty in a row, watching for more food.

Great attention has been paid to laying out the alameda, which is on the north side of the city. Its centre is ornamented with a number of fountains; its walks are well shaded on each side with trees; and the running water adds to its freshness; all unite to form a delightful promenade. In the cool of the evening it is much frequented, and its stone seats are occupied by numbers of citizens. This is the best place to get a view of the inhabitants; and notwithstanding their internal commotions, they appear fully to enjoy their cigarittas, which they are constantly smoking. The peculiar dress of the ladies is here seen to the best advantage, and, however fitted it may be to cover intrigue, is not, certainly, adapted to the display of beauty. A more awkward and absurd dress cannot well be conceived. It is by no means indicative of the wearer's rank, for frequently this disguise is ragged and tattered, and assumed under its most forbidding aspect, to deceive, or carry on an intrigue, of which it is almost an effectual cloak.

I never could behold these dresses without considering them as an emblem of the wretched condition of domestic society in this far-famed city.

The saya and manto were originally intended as a retiring, modest dress, to mark reserve, to insure seclusion, and to enable ladies to go abroad without an escort. The general term for the wearers is Tapada, and they were always held sacred from insult. Tapada is likewise applied to a dress which is also frequently seen, viz., a shawl worn over the head, so as to cover the nose, mouth, and forehead. None but the most intimate friend can know the wearers, who frequent the theatres in this disguise. It is to be regretted that it is now worn for very different purposes from its original intention. Intrigues of all kinds are said to be carried on under it. It enables the wearer to mix in all societies, and to frequent any place of amusement, without being known, and even if suspected by her husband or relatives, the law of custom would protect her from discovery. In this dress, it is said, a wife will pass her own husband, when she may be walking with her lover, and the husband may make love to his wife without being aware it is she.

The saya is a silk petticoat, with numerous small vertical plaits, containing about thirty yards of silk, and costing fifty or sixty dollars. It is drawn in close at the bottom of the dress, so that the wearer is obliged to make very short steps (ten inches). It is a little elastic, and conforms to the shape, whether natural or artificial, from the waist down. The manto is a kind of cloak, of black silk. It is fastened to the saya at the waist, and brought over the head and shoulders from behind, concealing everything but one eye, and one hand, in which is usually seen a cross, or whose fingers are well ornamented with jewels. Before the manto is arranged, a French shawl of bright colours is thrown over the shoulders, and brought between the openings of the manto in front, hanging down nearly to the feet. The loose saya is also much worn ; this is not contracted at the bottom, and in walking has a great swing from side to side.

The walk of the Lima ladies is graceful and pretty, and they usually have small feet and hands.

The houses are built of sun-burnt brick, cane, and small timber. All those of the better class have small balconies to the second story. Most of the houses are of two stories, and they generally have an archway from the street, secured by a strong portal, leading into an open court. The lower, or ground floor, is used as store-houses, stables, &c. This peculiar manner of building is intended as a security against the effects of earthquakes. The housetops are a depository for all kinds of rubbish ; and the accumulation of dust is great. The staircase leading to the upper story is generally handsome, and decorated with fresco paintings, which are, however, far below mediocrity. This style of building is well adapted to the climate.

The Portales, or Arcades, is one of the most attractive places for the stranger. He is there sure, at all hours, to see more of life in Lima than at any other place. They are built on two sides of the

plaza. The ground-floor is occupied as shops, where all kinds of dry goods and fancy articles are sold. Between the columns next the plaza, are many lace and fringe-workers; and without these again, are sundry cooks, fresco-sellers, &c., who are frying savoury cakes and fish for their customers, particularly in the morning and late in the evening.

The Arcades are about five hundred feet long, well paved with small stones, interlaid with the knuckle-bones of sheep, which produces a kind of mosaic pavement, and makes known the date of its being laid down, as 1799. This place, for hours, every day is the great resort, and one has a full insight to every store, as they are all doors, and consequently quite exposed to their remotest corner. The second story is occupied as dwellings.

The palace of the viceroy occupies the north side of the plaza. The lower part of it is a row of small shops, principally tinkers and small-ware dealers. On the east side is the archbishop's palace and the cathedral.

The fountain in the centre of the plaza is a fine piece of work, and was erected, according to the inscription, in 1600, by Don Garcio Sarmiento Sotomayer, the viceroy and captain-general of the kingdom.

"El que bebe de la pila sequenda in Lima," is the usual saying.

"He that drinks of the fountain will not leave Lima."

The cathedral is a remarkable building, not only from its size, but its ornaments. Most of the decorations are in bad taste, and I should imagine its former riches in the metals and precious stones have contributed chiefly to its celebrity. Certainly those ornaments which are left cannot be much admired.

Its great altar, composed of silver, might as well be of lead, or pewter, for all the show it makes. In a chapel on one side of the building, there is a collection of portraits of the archbishops. They are good faces, well-painted, and all are there but the one who, at the breaking out of the revolution, proved faithful to his sovereign and the Spanish cause. They all have had the honour, except him, to be interred in niches in the crypt under the great altar. Many of the coffins are open, exposing the dried-up remains of the saints, clothed in leather jackets and shoes, which the sacristan made no difficulty about disposing of for a trifle. Two skulls and a hand were obtained. There is some good carving about the choir of the cathedral.

The market of Lima is kept in an open square. It is a strange place to visit, and the scene that is witnessed there cannot fail to amuse the stranger. It is well supplied, and many purchasers frequent it. There are no stalls, and mats are used in their stead. The meat is laid on them in rows, and the vegetables heaped up in piles. The meat, as at Callao, is cut with the grain, and into small pieces, to suit the purchasers; and poultry is cut up in a similar manner. But what will most attract a stranger's notice, are the cooking establishments. These are in great request; stews, fries, and olla podridas, are in constant preparation by some brawny dame, who deals out with much gravity and a business-like air, the

small pieces to the hungry Indians, who stand by waiting for their turn. The fried dishes seemed to claim their preference, if one could judge by the number in waiting. The expertness of the woman who officiated was truly wonderful, twisting and twirling the dough in her hand, placing it upon a stick, dipping it in the hot oil, and slipping it, as soon as cooked, dexterously into the dish for her customers. Then again was a frier of pancakes close by, equally expert. The variety of dishes cooking was surprising, and those who fried fish exhibited undoubted proofs of their freshness, by consigning them to the pan before they ceased to live.

I was surprised at the variety of fish, meats, vegetables, and fruits; the latter particularly. These were in season, and included oranges, cherimoyers, pomegranates, paltas, plantains, bananas, papaws, granadillas, apples, figs, and ananas.

The above are the usual articles crowded into the market, but were I to stop here, one-half would not be told. All sorts of goods, jewelry, cottons, woollens, laces, hardware, linen fabrics, handkerchiefs, shoes, slippers, hats, &c., are hawked about by pedlers with stentorian lungs, who, with the lottery-venders, with tickets, inkhorn, and pen, selling the tickets in the name of the Holy Virgin and all the Saints, make an uproar that one can have little idea of, without mixing in, or witnessing it.

The convent of San Francisco occupies six or seven acres of ground. In its days of prosperity it must have been a magnificent establishment. Its chapels are very rich in gilding, carved work, &c., and the cloisters are ornamented with beautiful flowers and flower-gardens. Part of it is now occupied by the soldiers as barracks, and their muskets are stacked on the altar of one of its chapels. It has long since been stripped of its riches and deserted, but it seems once to have possessed all that wealth, luxury, and taste could effect or suggest. The good Father Anculus, who showed the building, was shrewd and obliging. The gallery of paintings contains, it is said, many fine Murillos. The remains of its former splendour, even now, justifies what Father Feüillee asserted, that there was nothing of the kind to compare with it in Europe. There are but few friars here at present, but it is said to have formerly maintained five hundred, living in the greatest luxury and licentiousness. The most remarkable object in the church, was the shrine and image of a black Virgin Mary, with a white infant Saviour in her arms.

The public library is composed of rare and valuable books, both in French and Spanish, taken from the Jesuits' College and convents. They are in good order, and among them are many manuscripts which are beautifully illuminated. The librarian, a young priest, deserves our thanks for his attention and civility.

The public museum has been but lately commenced. It contains a collection of curious Peruvian antiquities, some native birds, and the portraits of all the viceroys, from Pizarro down. At the cabildos or city hall are to be seen some of the archives of Lima, kept, until recently, in good order. Many signatures of the old viceroys and governors are curious; among others, that of Pizarro

is shown. As few of them could write, they adopted the *rubrica*, made by placing the finger of the left hand and making the flourish on each side of it, the clerk filling in the name. This method has since been generally adopted among the South Americans, in signing official documents, being considered full as binding as if the name was written.

There are three classes of inhabitants, viz., whites, Indians, and negroes. The union of the two first produces the cholo; of the two last, the zambo; and of the first and last, the mulatto. The Spaniards, or whites, are a tall race, particularly the females. They have brown complexions, but occasionally a brilliant colour, black hair and eyes. Some of them are extremely beautiful. The cholos are shorter, but well made, and have particularly small feet and hands. All classes of people are addicted to the smoking of cigars, even in carriages, and at the dinner-table. It does not seem to be considered by anyone as unpleasant, and foreigners have adopted the custom.

There does not appear to exist any accurate account of the population of Peru; but it is generally believed to have decreased, particularly as regards the whites and negroes. The best information gives but little over a million inhabitants, viz., about one hundred and twenty-five thousand whites; natives and cholos, eight hundred thousand; with ninety thousand negroes and ranchos, of whom about thirty-five thousand are slaves. This does not vary much from the number given by the geographies forty years ago. The country appears, from all accounts, not only to have decreased in population, but to have diminished in wealth and productiveness. A much less proportion of the soil is now cultivated than formerly under the "children of the sun."

There are half a dozen newspapers published in Lima, two of which are issued daily. They are, like the Spanish, small sheets. They have a good deal of control over public opinion. Few or no advertisements are seen in them. These are deemed unnecessary in Lima, and all the amusements, such as the theatre, cock-fighting, &c., are placarded on the portals. A high price is asked for the newspapers.

Most of the buildings in Lima have suffered more or less from earthquakes. It was the season of earthquakes during our stay, and three were felt. Some of our gentlemen complained of a sickening sensation during the first. It did not, however, do much damage. The second took place on the 5th of June, and was sensibly felt; a third was experienced on the 10th of June, with a continued shaking of the walls and floors. The last was reported as having been more severe to the northward.

With the name of Peru the want of moisture is generally associated. This, however, is far from being strictly true, except in certain parts of it. Were it not, however, for irrigation by the mountain streams, a great portion of Peru would certainly become nearly a desert. Indeed, the upland is so now, not yielding any herbage whatever until the pasture region of the Cordilleras is reached. We are not to imagine, however, that the atmosphere

is very clear, or that sunshine always prevails. It is extremely difficult to get a clear day. Father Feüillee has put upon record, more than a century ago, that the heavens were generally obscured. I can bear testimony to the truth of this remark, for although a glimpse of the sun was usually had some time during the day, yet it was almost as difficult to get equal altitudes at Callao during our stay, as it was at Terra del Fuego.

The dew (almozo) of Lima is never so great as to produce running water, yet it is more like rain than a Scotch mist.

The peculiarity of there being no rain has been accounted for in several ways, but not to me satisfactorily. The prevailing cold and dry winds from the southward sweep over the western shores of the continent; having a great capacity for moisture, they absorb it as they advance to the northward, from everything. On reaching the latitude of 12° S., they cease, and, having become saturated, now rise to a sufficient height, where they are condensed by the cold strata, and again deposited on the mountains in almost constant rains. This will account for the aridity in the high Cordilleras of Chili, as well as for the existence of the Desert of Atacama, the want of rain on the coast of Upper Peru; and at the same time, for the moisture of the high Cordilleras of Peru.

The records of Lima mention the falling of rain only four times in the eighteenth century, and the occurrence of thunder and lightning an equal number of times. But this applies to a small part of Peru only, namely, the country bordering the coast, some fifty or sixty miles in width around Lima. In the interior, at the height of ten thousand feet, a region exists subject to rain, and on the crest of the mountains the soil is kept perfectly moist by the frequent snows and rain.

Fire is not used often, but from the continual dampness there is a cold and clammy feeling, that is exceedingly uncomfortable and prejudicial to health. Lima has the reputation of being a healthy place—how obtained I know not—but it certainly does not deserve it. The interments have annually averaged over three thousand five hundred, in a population amounting, by the best accounts, to no more than forty-five thousand. Many of these deaths are those of strangers, and the climate has always been fatal to the Indians.

The Rimac derives its waters exclusively from the snows of the Cordilleras. It is a mountain torrent throughout its whole course. The quantity of water in it is small. The width at its mouth is about thirty feet, and one foot deep. It has not sufficient force to break a passage through the beach to the sea, and the water filters through the pebbly soil.

CHAPTER IX.

PERU (CONTINUED).

Trip to the Cordilleras—Preparations for the Journey—Passports—Departure—Effect of Official Papers—Ruins of Inca Towns—Ponchorus—Caballeros—Convoy of Silver—Accommodations—Earthquakes—Route up the Valley of Caxavillo—Face of Country—St. Rosa de Quivi—Yaso—Obrajillo—Difficulties in procuring Mules—Beauty of Situation—Llamas—Rioters—Plundering of Inhabitants—Culnai—La Vinda—Vegetation—Muleteers encountered—Crest of the Cordilleras—Casa Cancha—Its Accommodations—Cooking-range—Sickness of Party—Snow-storm—Alpamarca—Company of Peruvians—Their Attentions—Process of Amalgamation of Ore—Visit to the Mine—Face of the Mountain—Road—Baños—Beauty of Valley—Vegetation—Threatened Attack of a Condor—Portrait—Incidents relating to it—Description of Baños—Its Habitations—State of Horses—Return to Casa Cancha—Chilian Convoy from Pasco—Pasco—Mines—Veins of Ore—Number of Mines in operation—Laws in Relation to Silver Mines—Duties—Hill of Raco—New Speculations in 1840—Difficulties in Purchasing Mines—Political State of the Country adverse to this Business—Temperature—Line of Perpetual Snow—Ammonite—Chicrine—Travelling Parties—Frenchman—His Compliments and Fate—Culnai—Cultivation—Hospitality—Obrajillo—Accommodations—Want of Gallantry—Guides—Settlement—Bridal Party—Yaso—Robbery—Yanga—Hostess—Angelita—Caballeros—Return to Lima—Botanical Review—Geological Character of the Country—Flying-Fish sent to Pachacamac—Landing—Temple—Town—Tombs—Their Contents—Embarkation—Return to Callao—Commerce and Trade of Peru.

WHEN the Relief arrived at Callao, Messrs. Pickering, Rich, Agate, and Brackenridge obtained permission to make a jaunt to the Cordilleras of Peru, for the purpose of making botanical collections.

Mr. Rich spoke the Spanish language well, which afforded the party many facilities for overcoming the difficulties that were thrown in their way.

In Lima the journey was considered as a very serious undertaking, and likely to be attended with much danger, from the banditti who frequent the route they intended to pass over—that to the mines of Pasco. Through the friendly assistance of Mr. Biggs, of the house of Messrs. Bartlett and Co., everything was made easy. By his advice, they supplied themselves,

not only with blankets and horse-furniture, but with all sorts of provisions, and particularly with bread, of which they took as much as they could carry, notwithstanding the country was described as well inhabited. As a preliminary step, it was necessary to provide themselves with passports, for which they lost no time in applying. After the delay of a day, the passports came in the form of a letter of protection and recommendation from Lafuente himself, to the local authorities throughout all Peru, couched in the most liberal terms, and treating the affair with as much importance as if it were a national one. It is a regulation that the names of all who receive passports shall be published in the official gazette; their intentions, therefore, became known to all Lima. From the few who are gazetted, it would appear that but a small number travel into the interior, or else that the regulation is not very strictly complied with.

The injunction to render the party assistance in case of need was very strong, and among other things specified to be furnished, was *clothing*, which was thought to look somewhat ominous in this country of banditti. In spite of the positive terms in which the passport was expressed, it was found of little effect in procuring them mules or horses; and it was not till after much trouble and disappointment on many sides, that horses were at last obtained from the post establishment.

On the 16th May they were ready to set out; their proposed route was up the valley of the Rio de Caxavillo, the river next to the northward of the Rimac. Leaving Lima, they passed through the suburbs of San Lazaro, at the gate of which, and for the only time during the journey, they were desired to show their passports. Some little difficulty arose, and an intention was expressed to unload the baggage-mule for examination. This, however, was soon removed by the reading of the passport, and the examination ended in many bows, and the repeated exclamation, "Go on, go on! God speed you!" Such was the talismanic effect of an official document at the period of our visit.

At the distance of three leagues from Lima, they passed through the ruins of an Inca town, situated (as they uniformly found them afterwards) just on the border of the irrigated valley. The walls of the town were very thick, built of mud and unburnt brick, at right angles, very much after the modern manner; the hills also were seen covered with the ruins of Indian buildings, some of them resembling fortifications.

At six leagues from Lima they reached Ponchorua, the first stopping-place; but the party concluded to go a league beyond it to Caballeros, where they passed the night. They arrived there in sufficient time to make a short excursion to the banks of the Rio de Caxavillo, which appeared a larger stream than the Rimac.

Around Caballeros are very extensive meadows and fields of clover. The posada was found occupied by the guard and muleteers, who acted as a convoy of silver from Pasco. They gave up the only room in the house for our gentlemen, into which they were shown, and where a good supper was provided for them, while the guard took up their quarters in the yard. The metal, it was observed,

was in large masses of piña, some of them heavy enough to be a load for a mule, and an inconvenient burden to run away with.

They passed the night on the tables and rude seats, under cover—a luxury they had not yet learned to appreciate.

At midnight they felt the shock of an earthquake. A distant hollow sound was at first heard, which seemed to approach, increasing rapidly, and before they could spring to their feet, the house was rolled and shaken as if it had been on an agitated sea. Mr. Rich says that it was with difficulty he could hold himself on the table where he had been lying. The natives of the adjoining huts ran out into the road, uttering horrible shrieks, striking their breasts, and offering up prayers to the Holy Virgin to protect them. The shock continued severe for forty seconds, but lasted altogether about two minutes; it produced a slight nausea, like sea-sickness, which continued for some time afterwards, and a bewildering sensation, that rendered it difficult to collect their ideas to speak. The sound resembled that produced by throwing stones over precipices, so as to roll on hollow ground beneath. This earthquake was the most violent that had been experienced for some time, and was felt sensibly at Lima and through all lower Peru. No material damage was done—in consequence, according to the people of the country, of its *not getting to the surface.*

Early on the 17th the party set out up the dry mountain valley, the soil of which is composed of stones and loose powdery earth. This kind of ground continued for five leagues, with not a drop of water, nor was a plant or bird collected; nothing was seen growing but a few Tillandsias. On this route they passed many crosses, marking the spots where there had been loss of life; a sight that was not calculated to excite pleasing thoughts, and bringing to mind not only the great number of murders that had taken place, but the daily occurrence of attacks upon small parties of travellers by the desperadoes of Peru.

Immediately on the confines of this dreary waste is Yanga, a deserted-looking place, but having some good gardens and orchards. At noon they reached Santa Rosa de Quivi, a small place, where they procured some good fruit. After travelling two leagues, they at dark reached Yaso, and stopped at the postmaster's house; he was not at home, but they were permitted to sleep in the porch or verandah. Nothing edible was to be found in the village, except a few potatoes, after supping on which, they disposed themselves on the clay and stones, with their arms ready for service—a precaution necessary at times, even in the most frequented places in Peru.

During the day, they had been much annoyed by sand-flies and fleas; besides these, they had a few musquitoes, but the latter are seldom felt in Peru.

The screaming of parrots during the night had announced that some change had taken place in the vegetation. In the morning they found this to be the case. The land in the vicinity of the town was cultivated, and some good orchards and fields of clover were seen; the mountains, which had hitherto been gray with Tillandsias, had now assumed a greenish tinge. Agaves made their appearance

here, and a few miles beyond, the hills became entirely green; all showed that a different region had been entered. The inclined roofs of the huts proved that rains were experienced, and that it was found necessary by the inhabitants to protect themselves from them.

The valley had now become more contracted, and level ground was seldom seen; the mountains increased in elevation, the roads and scenery partaking of the character of Madeira. Cascades were seen springing from almost the very summits of the high peaks; cattle were grazing, and occasional cultivated patches were mingled with the pasture-grounds; the aid of irrigation was no longer necessary; and the Cordillera plants of the Flora Peruviana, with the vegetation made known by Humboldt and Bonpland, were recognised. At noon, after travelling six leagues, they reached Obrajillo, the rendezvous of the two celebrated Spanish botanists, Ruiz and Pavon, authors of the Flora Peruviana.

There are three towns, Obrajillo, Canta, and San Miguel, about a mile distant from each other, said to contain three or four thousand inhabitants. At Obrajillo, the general to whom they had letters of introduction was not at home; some difficulty in getting mules occurred in consequence; and it was not until much time and patience had been exhausted, that our gentlemen understood the real difficulty, which was, that the horses they had brought from the low country were not considered capable of standing the cold and fatigue of the mountains, the owners at Lima having refused to allow their mules to cross the mountains. They were assisted, however, in procuring mules and guides by the general's son.

Obrajillo, the largest of the three towns, contains about one hundred cottages. It has a stone church, with two towers, apparently of some age, which fronts on the open square. The dwellings are of one story, without floors, and almost without furniture; yet it is said to be the residence of many wealthy people. How true this may be, it was impossible, from appearances, to determine, for the high and low, the rich and the poor, all seem to live in the same style.

The difficulties that occurred in procuring mules for their journey, had delayed them so long, as to place it out of their power to proceed before the next day. The opportunity of visiting the environs was taken, and a large collection of plants was obtained, the annuals being found in the right season for making collections. The cascade which was seen as they approached was visited, and exhibited a picturesque and beautiful appearance, even when it was four miles distant.

At Obrajillo there are many pretty gardens and fields, under a good state of cultivation. The roadside itself looked like a flower-garden, and flowers of every hue were seen on either side, Calceolarias, Lobelias, &c.

Here was the first point where they had met the llama used as a beast of burden; the load which they carry is from seventy to ninety pounds.

On the 19th, at an early hour, some vagabonds, assuming the name of Chilians, went the rounds of the village, helping themselves

to everything they desired, to the utter dismay of the inhabitants, who made no resistance. The consequence was, that having neglected to supply themselves with bread the evening before, they lost the opportunity of doing it. This was a serious inconvenience, for Obrajillo supplies the upper country with bread, as Lima does the lower, and it is procured with difficulty, except at these two places. Potatoes were therefore taken as a substitute, though a very inconvenient one, from their great weight and bulk.

They were on the route by six o'clock, and an hour's ride brought them to a spot where the river formed a very picturesque rapid, soon after which they entered into a wild and romantic pass, between steep acclivities and precipices of immense height.

At ten o'clock they reached Culnai, a distance of five leagues; it contains about thirty cottages; its height is believed to be ten thousand feet above the sea, and here cultivation ceases, ending with the potato, Tropæolum, Oxalis, and Basella. The second region of plants also terminates here; and now ensued the "Paramera," or pasture region of the Andes, avoided by the inhabitants of the lower districts on account of the cold. This third region gives growth to a set of plants which make a gradual transition from those of the second region to low alpine scraggy bushes, none of which exceed two feet in height. The Paramera is remarkable for a dense sward of coarse grass, and low herbaceous plants, principally of the order Compositæ. The flowers of the latter, it was remarked, were particularly large in proportion to the plant. These form a rich pasturage for the flocks and herds, which are seen feeding in the valleys and along the sides of the hills.

No cultivation is attempted beyond Culnai, and but two species of Cacti were met with above this point.

They had hitherto, for the most part, followed a northerly direction, but now they diverged more to the north-east. The temperature was falling as they ascended, the air was clear and bracing, and the scenery, as they advanced, became more interesting, and even sublime. To its wild and precipitous features was now added the high snowy peak of Lavinda in the distance, and some few spots of snow were occasionally seen in places sheltered from the sun's rays. The mule-paths had become narrow, and when they met with mules, which was often the case, it became necessary to turn under the rocks, until the path was clear. On one occasion, one of the party allowed his mule to take the outside; the consequence was that a muleteer shoved mule and rider several feet over the bank. No injury was received, and the dilemma passed off with a good laugh at the fright.

The sagacity of the mules on these occasions is remarkable. They always endeavour to cling to the wall-side, and will succeed in doing it if not prevented by the rider. Their caution is great when they apprehend danger in passing over steep places; the instant danger was anticipated, the nose and four feet were used to ascertain its extent, which done, the animals cautiously proceeded, and reached the bottom with great care and ease, both to the rider and themselves.

About three o'clock they had gained the fourth or alpine region, where they were met with sharp and cutting winds, accompanied with hail and snow, that proved very uncomfortable to their sunburnt faces: this was supposed to be at an elevation of about fifteen thousand feet. Our gentlemen now felt the effects of the elevation in headache, difficulty of breathing, and excessive lassitude. The crest of the Cordilleras is at this place a league in width, the surface very uneven, containing small lakes without outlets, sunk in deep hollows; beyond this the streams which form the extreme sources of the Amazon were running to the eastward. After travelling two leagues on a gentle descent, they arrived at Casa Cancha about dusk.

Casa Cancha consists of three huts, and is nothing more than a muleteer's rendezvous; the place was in charge of two women, who, in expression, if not in form, might have been taken for witches. The accommodations, if they may be so called, were an apartment common to all the inmates, with no fastening to the door or windows, without a fire, and nothing but the hard ground to lie upon.

At night the thermometer frequently falls to the freezing point, and the climate is like that of winter; there is not, however, a stick of wood nor any resinous Umbelliferæ, as on the Chilian Andes, to be had, and the cooking is done with turf when it can be obtained, but dry cow-dung is most commonly used for this purpose. This is the only and the best establishment the place affords; even the first females in the country can procure no better accommodations, and will bear it for the night with contentment.

As a special mark of distinction, a smaller apartment was assigned to our gentlemen, in a hut adjoining that in which their supper was cooked, of which they witnessed the preparation. The cooking range was of peculiar construction, and might serve as a pattern for a modern *cuisine*. It occupied one corner of the apartment, and appeared to be convenient, and well adapted to the wants of the inmates.

After a time the fore-quarter of mutton made its appearance, in the hands of their landlady, scorched to a cinder. Being unprovided with a knife, she began to tear it into small pieces with her fingers. Our gentlemen remonstrated, but nothing would stop her until nearly every morsel of it had passed through her dirty hands. This, added to her state of intoxication, caused some of them to lose their supper from sheer disgust, though all agreed that she carved or tore it into pieces in a most dexterous manner.

After supper they were informed by their guides, in much consternation, that a band of Chilian marauders were approaching; the whole establishment was in great uproar. The party, however, proved to be a convoy. The officer in charge was civil, and engaged freely in conversation on the pending contest between Chili and Peru.

During the night the party were very much troubled with headache and difficulty in breathing; they passed an uncomfortable night on the clay floor. The thermometer in the doorway stood in the morning at 33°.

Casa Cancha is in a valley surrounded by lofty mountains. Its

height is fourteen thousand five hundred feet above the level of the sea. Pasturage in its vicinity is good; sheep and cattle are abundant; bread and potatoes are brought over the mountains from Obrajillo; of these they have oftentimes but a scanty supply, which was the case at this period. The evening previous to their arrival a theft had taken place there—a gentleman had had his fire-arms stolen; a great loss, when one takes into consideration the nature of the country, and the dangers to be encountered in travelling.

On the morning of the 20th, with one exception, they were all affected with vomiting, headache, and fever, and still suffering much from difficulty in breathing; this is usually felt on first visiting these elevated regions, and is said to be particularly so at night.

The morning proved so boisterous, with frequent hail-showers, that they determined to remain the day, to rest their mules and recruit themselves. Their breakfast was more acceptable than the last night's supper; it consisted of olla-podrida and milk.

As the weather allowed them to botanise, they set out in two parties, but had not been occupied over two hours, before they were overtaken by a severe snow-storm, which entirely covered up all small plants, and made it difficult for them to scale the rocks.

On the 21st, they had determined to proceed to Baños, which, from the description of their guides, who were ignorant however of the route beyond Casa Cancha, they had been led to believe was on the eastern slope of the mountain.

They started at an early hour, with the wild geese flying and feeding around them, determining to visit Alpamarca, which is distant from Casa Cancha about two leagues; but owing to their guides being unacquainted with the paths, they were led about among the mountains, and over extensive plains, covered with coarse herbage. A variety of beautiful flowers were found, and many domesticated llamas were seen feeding. At eleven o'clock they stumbled, as if by accident, on the place, consisting of a number of huts; one of these showed the welcome sign of bread for sale, viz: a basket stuck upon a long pole; and they were fortunate in procuring some small rolls.

Alpamarca proved to be in the vicinity of a silver mine, and here they found a good company of Peruvian gentlemen, collected from various quarters, and among them the general to whom they had brought letters to Obrajillo. They were received with great kindness and attention; the company insisted upon their dismounting, and gave them the cheer they had prepared for themselves, which was readily partaken of. It was served in a large gourd-shell, and consisted of a Spanish hotch-potch, or olla, with carrots, pot-garlic, pepper, and small bits of mutton. It was observed, as the eatables were disappearing, that the Spanish dons now and then would partake of the tidbits, by reaching over their shoulders from behind. This repast was well timed, for our party had been fasting sufficiently long to enable them to do ample justice to it.

The Peruvians sent for the superintendent of the mine, and in the meantime showed the process of extracting the silver, which was as follows: the ore is broken up until it resembles earth; it is then

thrown into a large round vat, and mixed with mercury and water; six or eight mules are then turned in and driven round and round, until the amalgam is formed; it is then put into a vessel, and stirred with water until the earth mixes with it, and the water being poured off, leaves the amalgam, whence the mercury is finally evaporated.

The ore appears to be taken almost entirely from the surface. It is poor, and the mines do not yield much profit. There are many old veins that have been extensively worked, but owing to their depth have been abandoned.

The superintendent arrived after a while; he proved to be an English miner, (Mr. R. Bevan,) who had been twenty years in the country. He was delighted to see our party, saying that an American and Englishman were all the same in Peru, and that he had not heard his own language spoken for two years. He informed them that the old Spaniards had worked the mines cheaper than any one has been able to do since. They were large landholders, and contrived to keep themselves in debt to their tenants; this they always paid in manufactured goods, very much in demand with the Indians who worked the mines, thus making a double profit on the wages. At the present time the mines are worked by Indians of a mixed blood, who have a language of their own. They are much addicted to the use of coca, (the leaf of the Erythroxylon coco, which is mixed and masticated with *quinoa*,) and without a supply of this leaf they will not work.

Mr. Bevan took the party to the mine, which is some distance up the mountains. Much difficulty was experienced in breathing the rarefied atmosphere, and great fatigue in walking; so much so, that it was necessary to stop every few steps to rest; and, what was surprising, Mr. Bevan and the Indians who accompanied him, appeared to be more affected than any of the party. He assured them it was the same even with the Indians born on the spot, showing that neither time nor other circumstances can adapt a constitution to this elevated region. On reaching the mouth of the mine, they saw several emaciated and ghastly-looking Indians seated near the entrance; they descended a few yards into it, but found that time would not admit of the delay necessary to pass down to the places where they were at work; and wishing to devote their attention to the interesting region of botany in which they then were, they gave up their purpose of descending.

On no part of their journey did they find so many remarkable plants as on this mountain.

Towards the middle of the afternoon they returned to the hut, when they determined to proceed to Baños. Previous to leaving Alpamarca they had some difficulty with the guides, who were dissatisfied with their bargain; it therefore required some management to prevent them from deserting altogether, and caused our gentlemen some fear lest they might be compelled to return; but after much dispute the guides consented to proceed, although it must be allowed that the bargain was far from being advantageous to them.

Along the road to Baños they passed some high ridges, with snow

and ice coming at times down to the path; also lakes in deep ravines, somewhat resembling small craters, which, like all the rest they had seen, were tenanted by numerous water-fowl.

The crest of the Andes did not appear here quite so broad as it had been found to be four leagues to the southward, but its elevation was thought to be greater. The continuous ranges of snowy peaks in the direction of Pasco were very striking. The Indians have names for all the most remarkable ones, but the Spaniards embrace the whole, together with the principal one, under the name of La Vinda.

From the direction of the descent to the northward and westward, they began to suspect they were descending upon the western slope of the Cordilleras instead of the eastern; this proved to be the case, which was no small disappointment, as it was their original intention to reach the wooded district on the eastern slope, termed "Montanas." In this they were therefore disappointed. As they proceeded, the country improved, the climate became milder, and the soil richer; on their way they crossed a small stream which was said to be the source of the river Chancai.

At dark they reached Baños, which is computed to be upwards of five leagues from Casa Cancha. Baños is considered to be at about the same elevation as Culnai, but the descent is more rapid to the former. According to the custom of the country, they applied to the Alcalde for accommodations, who is obliged, according to law, to furnish travellers with a house, if the town should possess none for the use of strangers, free of expense, and to provide them with a cook; the travellers buy their own provisions, and pay for the cooking, one real for each dish.

Baños is celebrated for its mineral hot-springs, from which it derives its name; they flow from the base of a high mountain.

The town consists of about thirty houses and a church, of which the inhabitants are very proud. It is a neat village, situated in a deep ravine, by the side of a tumbling stream, bounded on both sides by mountains three thousand feet high. The mountain sides appear so precipitous, that the remark was made by one of the party, "that he could not conceive why the cattle that were feeding on their sides did not fall off."

Along the margin of the stream, carnations, pinks, stock gilly-flowers, and French marigolds are naturalised; the pinks grow in immense numbers in every crack and crevice.

The cabbages here are woody and arborescent, like the cow or tree-cabbage, the trunk and branches being quite hard and covered with bark; they have, at a distance, some resemblance to the Brugmansia suaveolens.

The thermometer stood at 50°, and the weather, in comparison with the day before, was quite mild.

The soil in this valley is good, and cultivated, in some places, with care; no fruit was observed. The largest trees were a species of Elder and a Buddlea; Calceolaria, Salvia, and Heliotropium abounded.

On the 22nd, at an early hour in the morning, they found the village deserted, and it appeared, on inquiry, that all the inhabitants

had gone abroad to tend their herds. For the purpose of taking as wide a range as possible in search of plants, our gentlemen separated, some going up, while others descended; they all met with great success in their botanical researches. Dr. Pickering attempted the ascent of one of the summits; by noon he had reached a high elevation, and looking up, he espied a huge condor soaring down the valley. He stopped to observe the majestic bird as it sailed slowly along. To his surprise it took a turn around him, then a second and a third, the last time drawing so near that he began to apprehend that it meditated an attack. He describes himself as being in the worst possible condition for a fight, his strength being exhausted by climbing, and his right hand having been lamed for some days from a hurt. The nature of the ground, too, was anything but favourable for defence; but there was nothing left but to prepare for a fight, and with this intent he took a seat and drew his knife. At the instant, as if intimidated by the sight of the weapon, the bird whirled off in another direction. Dr. Pickering confessed, however humiliating the acknowledgment, that he was at the time very well satisfied with the condor's determination to let him alone.

The alcalde discovering that one of the party (Mr. Agate) was an artist, became extremely anxious that he should make a sketch of his father-in-law, an old revolutionary soldier, who resided there. As the son-in-law had been so attentive, and offered them so many civilities, among others the loan of a silver dish, spoon, and fork, he could do no less than gratify these wishes. For this purpose the old man dressed himself in his uniform. The task of sitting was almost too much for him, and he was nearly overcome with the excitement and exertion. The old man was greatly delighted with the picture, as were all those about him, except the son-in-law, who expressed great dissatisfaction that it should be without legs, it being only a half length, and offered a large price to have them put on: but time did not admit of it.

Mr. Agate's first effort was deemed so successful that his reputation was at once established at Baños, and shortly afterwards he was called upon by the sacristan to engage him to paint the four evangelists for the church. Price was no object provided he could do it, and they would besides consider it as a great favour.

Some of the by-standers proposed to have the constable painted, and pointed to a strapping big negro.

The houses literally contained no furniture, and the silver lent to our party was believed to constitute the only valuables in the place. The only articles besides that were seen, were some roughly-made wooden spoons, earthen dishes, and water-jugs, a few boards made into a rough table, with a stool or two, and a bedstead made of canes and plastered with clay. In no part of the United States, whether in the cabins of the Far West, or in the poorest suburbs of our eastern cities, are persons to be seen living in such a miserable manner. The country people of Peru, notwithstanding they are surrounded by everything to make them comfortable, want the knowledge and industry to use the advantages nature has given them.

On the 23d they left Baños on their return. Notwithstanding their horses had had some rest, their backs were in a shocking state, but the sores did not seem to be regarded much by the guides, who applied soap to them; they scolded and blamed the English saddles, which they called "Gallapagos turtles."

The party had determined to make another visit to Alpamarca, but the guides would not listen to it, giving as a reason that they should have their horses stolen if they went. While this discussion was going on, they met a person who informed them that the only persons now there were Indians. As their only inducement to return was the agreeable company they had left, they acceded to their guides' views, and taking another direction, arrived at Casa Cancha in the afternoon. At night, some Chilian cavalry arrived, which caused great alarm among the occupants of the huts, and the guides, for fear of losing their horses, a disaster which they said often occurred when such visitors came. The commander proved to be a gentlemanly person, and rendered our party much assistance. This party had left Pasco, the chief mining-place of Lower Peru, in the morning, and represented it as a place of considerable trade, containing many foreign residents, including English, American, French, and German. He stated that the *Quichua* language was spoken there, and that the Spanish was not commonly understood.

The town of Pasco is at an elevation of thirteen thousand feet, and situated in the plain of San Juan, at the head of two ravines, or gulleys, one called Rumiallana, leading to the northward, and the other Huanuco, to the eastward, where the two great veins of Colquijirca and Pariajirca unite. These are supposed to extend some seventy miles in length, and the town of Pasco is situated at their junction. The part of the ground that has been broken up, and in which ores have been found, is about half a mile in length in a north and south direction, and about one-fourth of a mile east and west. Within the whole of this extent ores have been mined of greater or less value, and the mines formerly worked and now deserted are said to amount to upwards of a thousand.

The town of Pasco is surrounded on three sides; northeast and south by hills of blue limestone; on the west the hills are of sandstone, and on the southwest of a blue slate. All the ores of the Cerro are ferruginous, and the silver nearest to the surface is contained in an ochreous iron-stone. In particular spots the silver is found mixed with lead and copper; and at variable depths in different localities the ores rest on a bed of solid iron pyrites, which in some mines yields silver, and in others not.

The plain of San Juan on the north is divided into many mining districts, to which names are given, to distinguish them more readily. The southernmost of these is called Zauricocha, and contains several mines, from which great wealth has been produced since the revolution. This is the region from which all the richest ores have been produced; and it has been always looked upon as the most important district in the Cerro. It is believed that further south, between this point and the hill of Uliachim, some good ores exist; but no attempt has yet been made to mine there.

In the district of Santa Rosa, lying west of Zauricocha, the greatest quantity of ore has been raised; it has been worked down to the level of the adit; and in several mines, where good ore has been discovered, they have descended to a lower level, drainage having been effected by hand-pumping.

On the east of the Zauricocha is the district called Arenillapata, in which few mines are now worked; the ore which is produced, although abundant in particular spots, is not rich.

Immediately within the town there are some few mines that are good, but there has never been any extensive work carried on. It is believed that profitable ore yet remains to be discovered.

Cayac, another district, lying north of Zauricocha, is worked to some profit; the upper adit from the northwest reaches it, and several mines in it have been yielding good returns.

To the north of Cayac are the Chucarillo and Zauracancha districts, the working of the mines in which had been impeded by water accumulated since the breaking out of the revolutionary war. The upper adit, leading from the gully of Rumiallana, is carried above them, and they consequently derive no benefit from it.

To the north of these last two districts lies the plain of San Juan; there are a few small veins running through some parts of it, but no important discovery has yet been made, although many mines have been opened and carried down to depths of from one hundred and twenty to one hundred and fifty feet. The lower adit, from the gully of Rumiallana, is to run through it, and may open to the proprietors some discoveries to recompense them for their labours.

The whole number of mines considered rich, in the different districts, may be enumerated as follows—

In Zauricocha	12 to 14
Santa Rosa	20 to 25
Cayac	10 to 12
Chucarillo	5 to 6
Zauracancha	10 to 12

Each of these mines comprises a space of one hundred and eighty feet long, by ninety feet wide.

The silver ores are estimated by a measure called a box of ore, which contains twenty-five mule-loads of ten arrobas, or twenty-five pounds each. Each box varies in value, from six Spanish marcs to three thousand; the former being the lowest which, under the most favourable circumstances, will pay the cost of working. The poorest is of course the most abundant.

The miner who can raise ores in considerable quantities, which will give ten to twelve marcs per box, does well.

The produce of the mines since the close of the revolutionary war has amounted to the following, viz.—

			marcs.	oz.
In 1825,	228 bars. . .	weighing	56,971	6
1826,	818 „	„	163.852	
1827,	1068 „	„	221,707	7

				MARCS.	OZ.
1828,	922	bars . . .	weighing	201,338	
1829,	359	„	„	82,031	
1830,	457	„	„	96,265	
1831,	635	„	„	135,139	3
1832,	994	„	„	219,380	5
1833,	1133	„	„	256,333	2
1834,	1142	„	„	267,363	4
1835,	1148	„	„	276,813	2
1836,	991	„	„	244,404	1
1837,	1172	„	„	234,785	3
1838,	1172	„	„	248,022	6
1839,	1210	„	„	279,260	3

To this may be added one-fifth for silver that has not paid duties.

The first adit of importance driven into the mines was that of San Judas, which passed the wall of the vein of Zauricocha in the year 1794. By means of this adit, very rich ores were raised, especially from the king's mine. In the year 1808, the present deep adit, from which so much was expected, was begun; for covering the expenses of constructing it, the body of miners imposed a duty of one real per marc on all silver melted in the government assay-office. This adit reached, in 1830, the south-west edge of the metalliferous ground of Santa Rosa, up to which time the whole of its course had been in a hard rock. An auxiliary adit was then commenced, fifty-four feet above the level of the main one, and both of these works have been carried on until the present time. The ground above being better adapted for *driving in*, the upper adit is in advance of the lower, one thousand five hundred feet, and has arrived at the district of Cayac. The lower adit has reached the mines situated upon the vein of Zauricocha, without having cut a single vein or deposit of ore in its transit. There are several rich mines a little in advance of this adit, some of which have been hitherto drained by hand-pumps, and which must be shortly very much benefited by it; for, although they extend below the level of the adit, yet they will have some fifty feet of pump-lift less. It will excite some wonder that steam is not now employed in the draining of such valuable mines. It has, however, been tried; a few years previous to the revolution four steam-engines, of thirty-horse power each, were brought out from England, and three of them put up in the districts of Santa Rosa, Cayac, and Zauracancha. That of Zauricocha was not set up, but the other three were worked with some success.

A level was driven from the engine-shaft of Santa Rosa into the mines of Zauricocha, and rich ores were raised. The engine of Cayac did little more than assist that of Zauricocha, which, on account of the greater quantity of water, was barely able to do the work required of it. The expense incurred by the house of Abodia in this undertaking was upwards of six hundred thousand dollars, and at the moment when they had begun to receive a good return for their capital, the revolution broke out, and the troubles incident to it put a stop to their work, and left them with that amount of

loss. Subsequently, at the close of the war, the engine of Santa Rosa was again put in operation; and in parts of the years 1826 and 1827, a considerable quantity of silver was produced by means of the drainage effected by it.

Some abortive attempts were made to use the engine of Zauricocha, from 1829 to 1833; but since the latter period they have all been abandoned as unserviceable.

The establishments for grinding and amalgamating the ores are situated at from one mile to three leagues from the mines; those nearest the town are deficient in water for several months in the year. The construction of all these mills is rude, and much power is lost. A mill will grind two hundred boxes of the hardest ore, if it have a constant stream of water. The amalgamation of the ore with mercury is effected by its being trodden by horses in circular enclosures, containing from five to ten boxes. The consumption of mercury, including mechanical and chemical loss, is about one pound for each marc of silver produced.

No attempts have yet been made at roasting any of the ores.

Coal-mines are met with in various parts of the country, at the distance of from two to seven leagues; the price is one real for an arroba, but might be much reduced if the business were properly attended to.

Various plans have been formed at Lima, and in England, to purchase and work these mines, but with what success is very uncertain; the attempts have generally been supposed to have resulted in a loss. Speculation is always rife in search of these valuable ores, and prospects of great gain are invariably held out to those who engage in them; but there is much difficulty in getting the business into successful operation. The great error committed by all the English companies established in 1825 for working mines in Spanish America was in saddling themselves with great numbers of people, engaged at high salaries, and workmen at extravagant wages; the expenses attending this force swallowed up much of the funds before any work was begun. These included not only inspectors and mining-captains, but artisans, all of whom were sent from England. From a total change of life and circumstances, the mining-captains and artisans almost invariably turned out, in a short time, drunkards, and became good for nothing. In some cases miners were brought out, and these turned out still more worthless than either of the two former classes. They, indeed, did more work than the Indians, but their wages were higher, and the expenses for their importation, in addition, made them cost much more.

According to the laws of Peru, the silver produced in this department must be sent to the government assay-office, to be melted into bars, and thence to the mint at Lima to be coined. The usual price of silver, as it comes from the mine, is from seven dollars, six reals to seven dollars seven reals per marc. If remitted to Lima on account of the miner, it yields him about eight dollars one real per marc.

The duties it pays are six dollars per bar of two hundred and ten

marcs to the assay-master, one real per marc for the public works of the Cerro, and one real per marc to government.

The mint price is eight dollars two maravedis per marc of eleven pennyweights fine.

Within three leagues of Pasco, on an extensive plain, there stands an isolated hill of porphyry, called Raco. From this hill are cut the stones used in grinding the ores, which are from two and a half to three varas in diameter, and from eighteen to twenty-four inches in thickness. The cost for delivering them at the foot of the hill is ten dollars for every quarter of a vara in their diameter, and the expense of drawing them to the mills varies from seventy to two hundred dollars, according to the distance.

In 1840 several new attempts were about to be made in mining speculations.

The great difficulty to secure success seems to be in providing for the proper drainage, which the present adit will not accomplish alone, and great advantages might be derived from steam-power, properly employed, to free the mines of water. The owners of the mines are always desirous of inserting in the contracts that they shall not have any water to raise, as this is the most expensive part of the process: the ore is very rapidly mined after the water is drained off. The remuneration given to the proprietors of the steam-engines is one-fifth of the ore raised; this was the sum paid to the old company, and the same was stipulated to be paid to the parties who undertook the same work in 1829.

Mines are to be bought at all times, on reasonable terms; for the miners often desire to retire from business, or wish to sell for the sake of profit, or are not able to carry them on from want of capital. There is, however, one difficulty a purchaser has to contend with, for the mines are almost always held in small shares among a number of relatives, many of whom refuse to sell their small interest. This makes the mines less desirable property, as difficulties almost invariably occur with these small proprietors.

No miner who has worked with reasonable prudence, steadiness, and a sufficient capital, has failed to do well since the year 1833. The produce of the mines of the Cerro from that time has not varied much from one year to another, as will be seen by the table heretofore given. The undertakings which have been carried on upon an extensive scale, are those which have prospered most. There were many difficulties that the first mining companies had to encounter, that others need not again apprehend; the local interests are better understood, and would be more respected; a better knowledge of the people prevails, and of the modes of mining; and the people themselves have lost some of their prejudices against foreigners. Persons may now be obtained to assist in the direction, as well as to afford advice to the agents who may be entrusted with the affairs of the company; so that the prospects of success in the operations are decidedly more favourable than they were fifteen years ago. But although the actual operation of mining may be more advantageous, yet the country, in its political and commercial character, has very much deteriorated, and it is to be apprehended that but little capital

will be invested in it until there is a great change in its rulers, as well as in its people, and until government, the laws, and good order, become as well established as they are in Chili.

To return, after this digression, to our party. On the morning of the 24th the thermometer stood at 36° in the hut, and on the rivulet there was ice one-fourth of an inch thick. Mr. Brackenridge gathered seeds here of a curious species of Cactus, which grows plentifully all over the mountains in dense tufts ; from the quantities of down or fine hair upon it, it has the appearance at a distance of a white sheep, so much so that a group of them was sometimes mistaken for a flock.

When the time came for their departure, they were glad to bid adieu to the place, and to begin their ascent to the top of the ridge. They rode two leagues to the source of the stream, which is near the summit of the ridge. At a short distance from their path was the line of perpetual snow. They found the ground hard frozen as the snow was approached, and almost bare of vegetation, only a few stunted spears of grass occurring here and there ; even this appeared to be wanting in the bare spots above the snow line. The snow was but a thin covering, its surface was hardened, and its lower margin formed a perfectly unbroken horizontal line along the face of the mountain.

In the alpine lakes was a species of Myriophyllum, the same as was met with at Culnai, three thousand feet below. Dr. Pickering found an ammonite here.

They descended rapidly on the western declivity ; the scenery was beautiful, and they had enough employment in collecting specimens. Two large parties were met on the route, the one of loaded mules, the other of several genteel travellers, among whom were females, accompanied by several servants well armed. In the afternoon they reached a solitary hut, at a place called Chicrine, situated at the foot of La Vinda, and kept by an old woman with one eye ; she proved very much the reverse of their hostess at Casa Cancha, being very cleanly ; here they passed the night comfortably.

A Frenchman, who was now passing for a native, and was on his way to Pasco with his servant, joined them at Chicrine. Being invited to partake of supper, he accepted, and did ample justice to the meal ; but when he had finished, contrary to the usual politeness of his countrymen, he told them he had never eaten a worse meal in his life.

After this remark a belief was entertained that his saddle-bags contained edibles, and he was, accordingly, plied with questions, until he confessed he had a loaf of bread : this proved quite acceptable, and a triumph over their fellow-lodger, who promised them a further treat in the morning upon some fine chocolate.

On the morning of the 25th the Frenchman departed early, and forgot about his fine chocolate. They regretted to hear, shortly after their arrival at Lima, that he had been robbed and murdered on his return.

Our party set out early, and after an hour's ride reached Culnai, where the villagers were busy gathering in their potatoes. There were also several patches of Oxalis cunata, Tropæolum tuberosum,

and a species of Basella. The two former, when cooked, are well-tasted, and all of them are much esteemed by the natives. These patches are enclosed by low stone dikes; the plants, as they advance, are earthed up, as we do potatoes, in the early part of the season; irrigation is necessary as the soil is light and open, and consists chiefly of decayed rock and vegetable mould. Here some very interesting seeds and roots of a species of Alstrœmeria were gathered.

Culnai and Baños are about on the same level, ten thousand feet above the sea, and are the highest points of cultivation; they are both distant from the crest, by the route of the water-course, about nine miles.

Dr. Pickering having preceded the party on foot, reached Culnai after nine o'clock, when he entered a store, and was received with the utmost cordiality; a meal was at once prepared for him, consisting of eggs and potatoes, called chupe in the country, which was kindly tendered; the landlord was very inquisitive, and examined his budget, calling the attention of the by-standers to it; his charge was reasonable, and he gave the doctor a hearty salutation at parting, with the "Adios per Dios."

At dark the party was reunited at Obrajillo. Those who arrived first witnessed the slaughtering of a bullock in the square, on which occasion great numbers of condors and buzzards were collected in the air above. The latter bird is seldom seen higher up than Yaso. They stopped at the posada, which they found occupied by the company of Chilian troops whom they had met at Casa Cancha, and in consequence they were obliged to take up with a filthy hut.

At Obrajillo good crops of Indian corn, rye, and beans are raised; but none of these grow at a greater altitude.

A singular and rather amusing custom was witnessed in the morning, which does not speak much for the gallantry of the male population. A town officer was seen strutting with a spear about the public square, calling all the women out to come and sweep it. They soon made their appearance, and were not long in creating a prodigious dust. They swept the dirt up into small heaps; then taking their coarse shawls from their shoulders, they spread them upon the ground, and put the dirt they had collected into them, to be carried away.

The guides now demanded a settlement, but requested their money might be kept for them until the party reached Lima, as they certainly would be robbed if they took it themselves. This incident proves how little security there is in this country for persons of any class having anything valuable about them.

The preparations that had been made in the town were for a festival, and the guides were disinclined to start for Lima. A little bribery, however, and reminding them that one of the greatest feasts in the Catholic Church, that of Corpus Christi, was near at hand, induced them to go forward.

On their way from Obrajillo, which they left at an early hour, they met a bridal party on horseback. The bridegroom's hat and person were decorated with carnations and pinks; the bride and

bridesmaid carried the same flowers, which they presented to our gentlemen in passing. After a hard day's ride they reached Taso, and took up their quarters in the porch of the post-house; the landlord and postmaster's absence was now accounted for, by saying that he had gone to church, but would soon be back; he of course did not come, nor was he expected by our gentlemen. They, in consequence, fared badly, for they had nothing to eat. They found here a gentleman who had been robbed the day before by three persons in masks; they had treated him with great politeness, only proposing exchanges to his disadvantage; he had nothing else to complain of; they took his purse, watch, spurs, and a drink of his brandy. Much to their surprise, the guides, who had been so scrupulous about their money, showed no signs of alarm. A new difficulty arose with them; they had been informed that a conscription was going on, and they were afraid to proceed, lest they should lose their liberty; but the assurance, that they would be protected while with the party, satisfied them.

The frequency of murder, highway robbery, and a constant resort to the cuchillo, has not been exaggerated in the accounts of Lower Peru.

On the morning of the 27th they again set out, having prepared themselves to encounter any attack. The guides, knowing well the dangers that were to be apprehended, showed much solicitude about keeping the company together.

They reached Yanga without accident, and finding the posada occupied by a party of soldiers, and a recruiting officer, they were directed to a house with a porch, but they found it shut up. They, therefore, being assured that the owner would soon return, deposited the saddles, &c., in the porch. Soon after, a woman appeared, and on being informed of their situation, and that they had fasted for two days, she set about providing for their supper, apparently from Christian motives, for during the process she crossed herself several times. She proved to be the owner of the estate, was somewhat advanced in life, managed her own affairs, and was seemingly well adapted to encounter the roughness of the times. The heiress, a little girl (Angelita by name), came galloping on a horse, driving the cattle before her, with the air of a veteran, having command over both the animal she rode and those she drove; they were not much struck with her beauty, for her well-plastered face, and wide-spreading and matted hair, gave her the appearance of an elf: but she was a specimen of Peruvian nobility. Their supper was good, and they were permitted to lie on the clay floor in the house.

They paid the usual price for the accommodations. In the morning, before their departure, they purchased fifty oranges for twelve and a half cents (a real), it being stipulated, however, that they should be gathered by themselves. These served to refresh them while passing over the barren track (described in their ascent) of four leagues. They were overtaken by their Chilian friends, and the troop, when their minds were relieved of the apprehensions of robberies.

Caballeros was reached at an early hour, and here they intended to stop on account of their horses; but their Chilian friends

persuaded them to pursue their journey to Lima, promising to render them assistance in case they should need it. At Caballeros they witnessed a fight between a turkey and a game-cock; strife, indeed, appears to be a constant amusement with the Peruvians, and scenes of this kind alone seem to interest the public. After a long day's journey of twelve leagues, they reached Lima at eight o'clock, very much fatigued, and happy to return to the comforts of civilised life.

The only novelty they met with during the day's ride, was a Guacho on horseback, carrying a pine board before him—a proof of the scarcity of such articles in Peru, and the value that is set upon them.

The great difference of elevation, and the variation in climate consequent thereon, would lead one to expect a greater variety in the vegetation than was actually found. Forests were nowhere met with, nor were any of the palm tribe seen; very few of the many tropical plants were perceived even on the coast. The smaller shrubs were seldom found, except in the lower region, where their limit is circumscribed to the well-watered district. Thickets are very rare, and in the higher regions appear altogether wanting. The vegetation of Peru, on the whole, is characterised by an air of tameness, indicating but a slight change of season, and has been classed into four distinct botanical regions, which are easily distinguished.

The geological region passed over was also one of much interest, and from the observations of the gentlemen, the following information has been derived.

The geological structure, as far as their observations went, corresponds to that of North Chili, with the exception of a narrow belt of sedimentary rocks along the sea-coast, west of the granitic range, which is wanting in that country. This belt includes the island of San Lorenzo and others, as well as the coast itself, to the extent of from seven to ten miles from the sea-beach. These sedimentary rocks are argillaceous, distinctly stratified, and more or less slaty, the layers being in many places discoloured by the red oxide of iron. In other places they appeared of a black colour, as if in the vicinity of coal-beds, of which the existence was spoken of, but we did not discover any unequivocal traces of this substance. Some conspicuous examples of faults were noticed by Mr. Dana along the coast of San Lorenzo. Many minerals were also found by this gentleman; among them gypsum was of frequent occurrence, as well as some fossils; for fuller information reference is made to the Geological Report.

The hills and mountains to the eastward, joining the above sedimentary rocks, are exclusively of granite, which extends in width to the distance of forty-five geographical miles beyond Yaso. In places it has very much the appearance of a stratified rock; it is much broken, and variable in its character, so as to render it somewhat deceptive. Dr. Pickering observes, that this peculiar character or appearance is owing to the slow process of the decomposition of the rock in this dry climate, and which would, in other places, subject to the ordinary fluctuations of seasons, be covered

with several feet of earth. The same reasons will account for the duration of the Inca villages that cover many of the hills, and which a copious shower would entirely wash away. The granite on its eastern side was coarse-grained, presenting more of the ordinary appearance of that rock.

Immediately eastward of the granite district commence the trap rocks, consisting for the most part of porphyry. Dr. Pickering traced the line of junction for some miles, the hills on one side being of granite, on the other porphyry. The eastern limit of the trap region is supposed to be distant some twenty miles from the western. The porphyry resembles the Swedish, and that in the vicinity of Boston. Many porphyry pebbles, supposed to be of this formation, were found on the beach at Callao, having, it is to be presumed, been carried there by the action of the water-courses.

Next comes the plateau of the Cordilleras, which is formed of sedimentary rocks; this includes the silver mines, and the highest peaks, and is apparently of the same age as the coast. Much of the rock is argillaceous. At Baños an argillaceous limestone was used for burning, and quantities of gypsum, used for manure, were brought from the vicinity of Casa Cancha, some twenty miles to the north. Conglomerates prevailed over a great portion of the crest the party traversed. The included pebbles were observed to be of regular shape, smooth and polished, as if sea-washed. All the party remarked the smoothness of the pebbles in the torrents of the Cordilleras, which had a strong resemblance to those on the sea-beach. From the information relative to the mines in the Cerro de Pasco, it will have been perceived that blue limestone, slate, and sandstone exist in that vicinity; and at the silver mines at Alpamarca a compact bluish rock was observed, probably the limestone; it was not, however, ascertained whether it was argillaceous or a pure limestone. Dr. Pickering remarks, that it contained numerous hard seams of opaque calcareous spar, with somewhat the lustre of "satin spar." Sandstone with small pebbles was not uncommon.

The bare spots of the higher peaks did not present the variety of colour of the Chilian Andes, but had a uniform dark slaty hue. Many incrustations were seen forming on the rocks and plants; this was found to be gypsum.

Previous to our departure, I felt desirous of having an excursion made to the ruins of Pachacamac; and having heard that the landing was easy and good, on the inside of the island, I sent the tender Flying-Fish thither, with Dr. Pickering and Lieutenant Underwood.

Pachacamac is one of the most interesting spots on this part of the coast, although it is said it will not compare with many others in various parts of the country, especially at Cusco.

They left Callao on the afternoon of the 28th of June, and were at anchor about midnight abreast of the place. At daylight the surf was found so heavy as to render it dangerous to land in the whale-boat. By the perseverance of the officers, a raft was formed of the India-rubber mattrasses and oars; two balsas were also

provided. Lieutenant Underwood made the first attempt, and paddled himself into the rollers, the first one of which threw him and the balsas end over end. Shortly after, the raft was seen bottom up, the oar broken, and the fragments sticking up in various directions; but he was missing. He soon, however, made his appearance at some distance, and just as he reached the raft, a second sea broke over him, and he again disappeared, apparently much exhausted. When the third roller broke over him, he was considered for a few moments as lost; and it was no small relief to see him crawling from the water up on the beach, a short time afterwards. The raft was now pulled back to the tender by the line. In consequence of the ill success of this experiment, it was determined to make a trial in the whale-boat, which succeeded without accident. Dr. Pickering and Lieutenant Underwood now proceeded to the temple. At the base of the hills, they found a few cabins of Indians, who stated that they had not chosen the proper place for landing.

The temple of Pachacamac, or castle, as it is called by the Indians, is on the summit of a hill, with three terraces; the view of it from the north is somewhat like that of the Pyramid of Cholula, given by Humboldt, except that the flanks were perpendicular.

The whole height of the hill is two hundred and fifty feet, that of the mason-work, eighty; the form is rectangular, the base being five hundred by four hundred feet. At the south-eastern extremity, the three distinct terraces are not so perceptible, and the declivity is more gentle. The walls, where great strength was required to support the earth, were built of unhewn square blocks of rock; these were cased with sun-dried brick (adobes), which were covered with a coating of clay or plaster, and stained or painted of a reddish colour.

A range of square brick pilasters projected from the uppermost wall, facing the sea, evidently belonging originally to the interior of a large apartment. These pilasters gave it the aspect of an Egyptian structure. In no other Peruvian antiquities have pilasters been seen by us. On one of the northern terraces were also remains of apartments; here the brick appeared more friable, owing to a greater proportion of sand; where they retained their shape, their dimensions were nine inches in width by six inches deep, varying in height from nine inches to two feet; and they were laid so as to break joint, though not always in a workmanlike manner.

The remains of the town occupy some undulating ground, of less elevation, a quarter of a mile to the northward. This also forms a rectangle, one-fifth by one-third of a mile in size; through the middle runs lengthwise a straight street, twenty feet in width. The walls of some of the ruins are thirty feet high, and cross each other at right angles. The buildings were apparently connected together, except where the streets intervened. The larger areas were again divided by thinner partitions, and one of them was observed to contain four rectangular pits, the plastering of which appeared quite fresh.

No traces of doors or windows towards the streets could be

discovered, nor indeed anywhere else. The walls were exclusively of sun-dried brick, and their direction, northeast and southwest, the same as those of the temple, which fronted the sea.

Some graves were observed to the southward of the temple, but the principal burying-ground was between the temple and town. Some of the graves were rectangular pits, lined with a dry wall of stone, and covered with layers of reeds and canes, on which the earth was filled in to the depth of a foot or more, so as to be even with the surface. The skulls brought from this place were of various characters; the majority of them presented the vertical elevation, or raised occiput, the usual characteristic of the ancient Peruvians, while others had the forehead and top of the head depressed. Eight of these were obtained, and are now deposited at Washington. The bodies were found enveloped in cloth of various qualities, and a variety in its colours still existed.

Various utensils and other articles were found, which seemed to denote the occupation of the individual: wooden needles and weaving utensils; netting made in the usual style; a sling; cordage of different kinds; a sort of coarse basket; fragments of pottery, and plated stirrups. They also found various vegetable substances; husks of Indian corn, with ears of two varieties, one with the grain slightly pointed, the other the short and black variety, which is still very commonly cultivated; cotton seeds; small bunches of wool; gourd-shells, with a square hole cut out, precisely as is done at present. These furnished evidence of the style of the articles manufactured before the arrival of the Spaniards, and of the cultivation of the vegetable products; when to these we add the native tuberous roots (among them the potato) cultivated in the mountains, and the animals found domesticated, viz: the llama, dog, and Guinea-pig, and the knowledge of at least one metal, we may judge what has since been acquired.

The embarkation of the party was attended with risk, but they all got on board the Flying-Fish without accident, and in a few hours they again reached the anchorage at Callao.

The results of my inquiries into the commerce and trade of Peru, are by no means satisfactory. The vacillating policy pursued towards the trade has been most extraordinary; and some of those engaged in commercial pursuits have frequently been enabled, through the necessities of the government, to reap many advantages. Much illicit trade was carried on, even before the revolution, under the Spanish rule. The restriction laid by its authority on commerce, kept the prices of imports high, whilst the low value of exports, left to the arbitrary demand of monopolists, prevented or diminished the means of these countries to pay for what they wanted from abroad.

From this state of things resulted the limited trade and enormous profits to a few individuals, under the colonial system. As soon as the ports were opened, an expansion took place, and the trade was entirely overdone. The markets became glutted with all kinds of foreign fabrics, and many ruinous voyages were made from ignorance of the wants of the people, and their means of payment.

For the last ten years the trade has been better understood. The demand and the means of payment have been more accurately ascertained, and a healthy and increasing commerce has been carried on, as far as the state of the country and the fluctuations, which are inseparable from a distant traffic, would permit. The commerce of Peru will not bear a comparison with that of Chili, and while the former has been diminishing, the latter has been rapidly increasing. A portion of the supplies which were formerly sent to Peru direct are now obtained in Chili, and sent to their destination in coasting vessels. This change has been brought about by the unwise policy pursued by the various Peruvian rulers, in imposing heavy transit duties. This is also in part to be attributed to the advantageous situation of Valparaiso, where purchasers are always to be found for articles for the leeward coast. There is little doubt in the minds of those who are most competent to judge, that Valparaiso must become the principal mart of foreign commerce on the west coast of America.

The foreign trade of Peru is principally carried on by the English, Americans, and French. Of late years, a good many German and Spanish vessels also have been sent thither; and occasionally some of the Mediterranean flags are seen on the coast.

The annual imports into Peru are combined so much with those of Chili, that it was deemed proper to include them under the one head; those of Peru amount to about two-fifths of the whole. Of these imports, part go to Guayaquil; the Intermedios, or South Peru and Bolivia, take about one million from Chili and Lima. The returns made from Peru are as follows:

In dollars and bullion . . .	$4,500,000
Bark, hides, wool, cotton, &c. . .	500,000
	$5,000,000

It will be perceived, that both in Peru and Chili, the imports and exports are nearly the same in amount; and the question naturally arises, whence the profit on the trade? It is readily answered that, as has been already said, large quantities of goods are annually sold in Chili and Peru for Central America, the proceeds of which are shipped thence direct to Europe and the United States, and do not appear in the above note of exports.

These countries offer a large market for our domestic cottons; and if the prices can be maintained, the United States will supply the most of the coarser kinds used there. I have it from the best authority, that the consumption of these goods is now double what it was five years ago, and it is still increasing.

The article of flour, however, has greatly fallen off; previous to 1830, there were nearly thirty thousand barrels exported to Peru from the United States; in the last three years, only six thousand, and in 1841, but one thousand, in consequence of Peru being abundantly supplied from Chili.

CHAPTER X.

PAUMOTU GROUP.

Store-ship Relief ordered Home—Departure—Peruvian Brig—Small-pox—General Order—Proposed Route—Clermont de Tonnerre—Appearance of it—Survey—Natives—John Sac—Difficulties with the Natives—Landing—Serle Island—Honden—Surveys—Coral Islands—Vegetation—Birds—Disappointment Islands—Inhabitants—Wytoohee—Otooho—Raraka—Landing—One-handed Chief—His Visit to the Ship—Inhabitants—Leave-taking—Gale—Narrow Escape of Peacock—Vincennes Island—Landing—Aratica Island—Communication with its Inhabitants—Tender despatched to King George's Group—Vincennes and Peacock discover Manhii and Ahii Islands—Survey—Landing—Observations—Natives—Deserter—Eclipse—Peacock dispatched to Rurick Island—Vincennes passes to Nairsa—Inhabitants—Krusenstern's Island—Metia Island—Its Appearance—Survey—Landing—Appearance of the Island—Departure—Arrival at Tahiti—Anchor in Matavai Bay—Proceedings of Porpoise—Proceedings of Peacock—Arutua—Survey—Nairsa or Dean's Island—Coral Blocks—Metia Island—Tetuaroa—Flying-Fish—Tiokea and Ouro—History of Paumotu Group—Character of its Inhabitants—Population.

ON the 13th July, 1839, we had finished the necessary outfits and taken in our stores. The remainder of the latter were embarked in the store-ship Relief, which was ordered to land a part of them at the Sandwich Islands, and the rest at Sydney, New South Wales, after which to proceed to the United States by the way of Cape Horn.

At five P.M., having a light breeze, the signal was made to get under way, and we were soon standing out of the bay under all canvass.

The day after our departure, we fell in with a Peruvian brig, from San Blas, in want of water, which we supplied.

I had felt much anxiety lest the small-pox should make its appearance among us, and looked forward daily with apprehension to the hour when the sick reports were made. On the 14th my worst fears were realised, for the Peacock made signal that they had a case of that disease on board. It fortunately proved of a mild type, and no other symptoms occurred that left any doubt of the entire extinction of the contagion. I was, therefore, greatly relieved, as day after day elapsed, to be assured that we had not only escaped so dreadful a scourge ourselves, but that there was no danger of its being communicated to the islanders.

Being now about to enter upon a new field of observation, in which we should necessarily come much in contact with the natives, I issued the following general order, to guard against any misdemeanors, and insure a correct deportment in both officers and men, during our intercourse with the islanders.

GENERAL ORDER.

The undersigned, commanding the Exploring Expedition, informs the officers and crews under his command, that as they are now about to visit the islands of the Pacific, and to have intercourse with their inhabitants, he wishes to inculcate, on all in the squadron, that courtesy and kindness towards the natives, which are well understood and felt by all classes of mankind; and trusts that neither contempt of, nor interference with, their customs, habits, manners, and prejudices, nor arrogance over them, will be shown by any one belonging to the squadron; bearing always in mind, that savage nations have but vague ideas of the rights of property, and that theft committed by them has been the great cause of collision between them and civilised nations.

He would therefore enjoin upon all, great moderation in everything respecting their intercourse with them, that no act of hostility will be committed, and that an appeal will be made rather to their good-will than to their fears.

That the manner of trading with them which will be established in the squadron, will be most strictly adhered to by all, and that in the event of difficulties or collision, all acts of force will be avoided, unless for self-protection; in short, our aim shall be peace, good-will, and proper decorum to every class, bearing constantly in mind, that the future intercourse of our countrymen with the natives of the islands we may visit, will very much depend on the impression made on their minds by us; and recollecting, that it is the nature of the savage long to remember benefits, and never to forget injuries.

It therefore behoves us, wherever we go, to leave behind us, whether among civilised or savage nations, favourable impressions, not only as respects this national Expedition, but of our flag and countrymen. The Commander-in-Chief feels a confidence in relying on the officers and crews to carry out these views, from their good and exemplary conduct heretofore, and trusts that he will not have to regret the confidence he reposes in them.

Any acts inconsistent with these views will meet with the most exemplary punishment.

(Signed) CHARLES WILKES,
Commanding Exploring Expedition.

July 13th, 1839.
United States Ship Vincennes,

I had determined, on leaving Callao, to take up the examination of the Paumotu Group, recommended to the Expedition by that distinguished navigator and promoter of science, Admiral Krusenstern, whose notes were made a part of my instructions. I therefore steered for the island of Minerva, or Clermont de Tonnerre, one of the most eastern of the Paumotu Group, or Cloud of Islands, as the name implies. I deemed this to be the most interesting point at which to begin our surveys, and the researches of our naturalists,

particularly as it was inhabited, and would thus enable us to trace the inhabitants from one end of Polynesia to the other, across the Pacific. At the same time, it afforded a very desirable point for magnetic observations; and a visit to it would also enable me to settle a dispute between the two distinguished English and French navigators, Captains Beechey and Duperrey, relative to its geographical position.

On the 13th of August, at five o'clock, P.M., we made Clermont de Tonnerre, or Minerva Island. Clermont de Tonnerre, being the first low coral island we had met, naturally excited a great deal of interest. We had pictured them to ourselves as being a kind of fairy-land, and therefore looked for them with some anxiety.

At first sight the island appeared much like a fleet of vessels at anchor, nothing but the trees being seen in the distance; and as the ship rises and sinks with the swell of the ocean, these are alternately seen and lost sight of. On a nearer approach, the whole white beach was distinctly seen, constituting a narrow belt of land, of a light clay colour, rising up out of the deep ocean, the surf breaking on its coral reefs, surrounding a lagoon of a beautiful blue tint, and perfectly smooth. This island was twelve feet above the level of the sea, and six hundred feet wide to its lagoon, and is composed of coral debris and vegetable matter. The shrubs are few, and not more than from twelve to fifteen feet high; the cocoa-nut, palms, and Pandanus, showing conspicuously above them. We found it, by our survey, to be ten miles long, by one and a half wide, lying in a west-north-west and east-south-east direction. The first sounding on the east side of the island, at three hundred feet from the reef, was obtained in ninety fathoms (coral sand); at one hundred and eighty feet, eighty-five fathoms (coral sand); at one hundred and thirty feet, seven fathoms (hard coral); being at the edge of a nearly perpendicular shelf; thence to the shore, the bottom was uneven, decreasing to four, three, and two fathoms, until a second, or upper coral shelf arose, over which the water, at high tide, flowed. This extended to where the beach is composed of broken coral and shells, and arose on a gentle declivity to ten feet high.

The Peacock sounded within three quarters of a mile from the southern point of the island, at three hundred and fifty fathoms, the lead brought up for a moment, and then again descended to six hundred fathoms without reaching bottom. When it was hauled up it had a small piece of white and another of *red* coral attached to it. The west side of the island is a bare reef, over which the surf breaks violently. There is no opening or entrance to the lagoon.

For the purpose of surveying the island, the Peacock and Flying-Fish took the west side, while the Vincennes and Porpoise kept on the east. Boats were lowered and sent on shore for the purpose of landing; several of the officers and naturalists succeeded in reaching the beach (swimming through the surf), where they remained about two hours, making collections.

I saw some natives, five men and two women, and endeavoured to hold communication with them. The former were armed with long spears. They were cautiously watching our movements; and

after the boats had left, they were seen examining the beach for articles that might have been dropped. Every inducement was held out to them to approach my boat, but without success; and we were obliged to return on board for the night, not having succeeded in finishing the survey. Wishing to communicate with the natives, and effect a landing, we lay-to, and by morning found that we had drifted off from the island eight miles to the north-west, and did not again reach our station until towards the afternoon. I then proceeded to the beach, taking with me, as interpreter, John Sac, a New Zealander, who spoke the Tahitian language, determined, if possible, to enter into communication with the natives, and to land to make observations. Seventeen natives were now seen on the beach, armed with long spears and clubs, which they were brandishing, with menacing attitudes, making motions for me to retire. As I approached them, with a white flag flying, many more were seen in the bushes, probably, in all, about one hundred. I told John Sac to speak to them, which he did, and found he was understood. The only answer he could get from them was, several of them crying out at the same time, "Go to your own land; this belongs to us; and we do not want to have anything to do with you." It was impossible to beach the boat without injury, on account of the surf and coral; and in order to land, it was necessary to swim a short distance, which could not be done without our being attacked, and suffering injury, before we had established a friendly intercourse. I therefore had recourse to throwing presents to them—all of which they eagerly took—assuring them that we were friends; but they still continued warning us off, and threatening us with their long spears. I am rather inclined now to think our interpreter was partly the cause of my not succeeding in overcoming their fears and scruples. John Sac was truly a savage, although he had imbibed some feelings of discipline, and was generally a well-disposed fellow. He was a petty New Zealand chief at the Bay of Islands, and had resided some time at Tahiti, where he said he was married. At times it was difficult to control John's movements. On this occasion he soon became provoked at the chief's obstinacy; and the idea of their receiving all our presents so greedily, without even thanks in return, excited his native fire; his eyes shone fiercely, and his whole frame seemed agitated. Half naked as he was, his tattooing conspicuous, he stood in the bow of the boat, brandishing his boat-hook like a spear, with the dexterity of a savage. It was difficult to recognise the sailor in the fierce, majestic-looking warrior before us. The chief and John kept passing words until both were becoming vociferous, the one appearing as savage as the other. John's animated attitudes and gestures were the admiration of all. As we could not understand him, he may have said many things to irritate the savage chief before he could be silenced, although he afterwards declared his innocence in that respect. I had been engaged for upwards of an hour endeavouring to overcome their fears, when I was joined by several boats from the other vessels. The officers being anxious to have communication with the natives, were desirous of landing, and I readily gave them permission to do

so, without arms. They passed a short distance from us, hoping to effect their purpose without opposition; but the natives separated, in order to oppose any landing. One or two officers swam through the surf, without arms, and were boldly set upon by the natives, when they made a hurried retreat. This evidently gave the natives confidence, and their conduct became more violent. Mr. Couthouy requested permission to land with presents, under the protection of the boat, to which I consented. He swam on shore, pausing now and then, for the purpose of showing the trinkets. The chief motioned him away, but he landed on the rocks. The chief, retiring, appeared as if somewhat alarmed, while Mr. Couthouy advanced towards him, holding out the presents. On being joined by another native, the chief stopped, raised his spear, and with a shout and distortion of countenance, made a pass at Mr. Couthouy, who at once dropped looking-glasses, trinkets, &c., at his feet, and quickly made for the boat. The savage took no notice of the relinquished offerings, but advanced to attack him with his spear. When he had reached the edge of the surf, the chief made another thrust at him, but fortunately without injury. This precipitate retreat gave them still more confidence; they now began throwing pieces of coral, numbers of which struck the men in my boat. I felt no disposition to do them harm, and yet I had no idea of letting them see and feel that they had driven us off without landing, well knowing, however, if a forcible landing took place, and they made resistance, that injury would befal one side, and probably both. I therefore, thinking that they had no idea of fire-arms, ordered several blank cartridges to be fired; but they took no notice of them.* According to John Sac, they hooted at these arms, calling us cowards, and daring us to come on shore. I then fired a small charge of mustard-seed shot at their legs, which did not produce any effect. Then Mr. Peale, who was near by me, was requested to draw his ball, and load with mustard-seed, which he did; and Lieutenant North likewise fired, which caused the chief and all the rest to retreat, rubbing their legs. The officers were now permitted to land, under strict injunctions, in order to avoid all contact with the natives, not to leave the beach.

The natives whom we saw, appeared a fine athletic race, much above the ordinary size. Their colour was darker than that of our Indians, but their features resembled them. No tattooing was observed on the men, and the women were not seen close enough to distinguish them. The hair of the former was long, black, and straight. The chiefs had theirs drawn back, and tied in a knot behind; the others had theirs hanging loose. They wore a small maro made of leaves, and the chiefs a Pandanus leaf around their necks, probably to distinguish their rank. The women wore a piece of tapa as a petticoat; they were not oiled, and the heads of some seemed filled with ashes or lime. They spoke and understood the Tahitian dialect.

* I have since understood, however, that the poor natives have been fired upon by trading vessels, engaged in the pearl-fishery, in mere wantonness, which will account for their hostile reception of us.

Immediately on their being driven from the beach, a large column of smoke was seen, no doubt a signal to the other inhabitants of the island. After being on the reef half an hour, we joined our boats, and returned on board near sunset.

The number of inhabitants that we saw certainly did not exceed one hundred and twenty.

On the 16th, we bore away for Serle Island; we made the distance between the two islands, twenty-six miles and two-tenths. No signs of any other island exist between these two. This will, I think, settle the question between Duperrey and Beechey. The latter is undoubtedly wrong as respects the longitude of Clermont de Tonnerre, which he places some twenty minutes too far to the eastward, and, I doubt not, some accidental error has occurred in his observations; for I find, at Serle Island, Duperrey, Beechey, and myself agree within a few minutes.

Serle is a low coral island, and has a large and very regular clump of trees on its western end, which, at a distance, might be taken for a mound or hill. There are but few inhabitants on it.

Lieutenant Alden, in charge of one of the boats employed in surveying, had communication with the natives, who were very friendly, and desirous of holding intercourse with him. He obtained several articles of curiosity from them. Some of them were tattooed. They were found to be arrant thieves, wishing to carry off everything they saw,—trying even to pull the copper off the blades of the oars. When first seen they were armed with spears, but observing that we did not attempt to land, they sent them away in charge of a boy, and swam off to the boat.

On the 19th of August, we made Henuake, Honden, or Dog Island, and came up with it about noon. The boats were at once dispatched, in order to ascertain if a landing could be effected, and the ships began the surveying operations. The number of birds seen hovering over the island was an indication that it was not inhabited, which proved to be the case. Several turtles were caught, and a number of specimens obtained. The survey of the island not having been completed, we lay by all night, and early in the morning dispatched boats to complete the examination of it, and to effect a landing. The greatest part of the day was spent on the island.

The landing on a coral island effectually does away with all preconceived notions of its beauty, and any previous ideas formed in its favour are immediately put to flight. That verdure which seemed from a distant view to carpet the whole island, was in reality but a few patches of wiry grass, obstructing the walking, and offering neither fruit nor flowers to view; it grew among the rugged coral debris, with a little sand and vegetable earth.

The principal trees and shrubs are the Pandanus, Boerhaavia, and Pisonia. It is somewhat surprising that a few trees, forty or fifty feet high, should have found sufficient soil to protect their growth. Most of the trees, however, are of stunted size, being not more than ten to fifteen feet in height, and eighteen inches in diameter.

The number of birds on the island was incredible, and they were

so tame as to require to be pushed off their nests to get their eggs. The most conspicuous among them was the frigate-bird (Tachypetis aquilus); many of the trees were covered with their nests, constructed of a few sticks. The old birds were seen, as they flew off, inflating their blood-red pouches to the size of a child's head, and looking as if a large bladder were attached to their necks. The gannets, sooty terns, and the beautiful tropic-bird, were in countless numbers; the former guarding their eggs (which were laid on the ground without a nest) with care, remaining by them, and even suffering themselves to be captured without resistance. Their hoarse croaking was quite deafening.

Some droll sights were seen of crabs walking off with snakes, and both again seized by some stout bird and borne away. Armies of soldier or piratical crabs (Paguri) were seen moving in all directions with their shells. We enjoyed ourselves much, and found no use for our guns, powder, and shot; as many specimens as we could desire were taken with the hand, both old and young. In some cases the tropic-birds were taken off their nests, and from others their eggs were taken without disturbing them; indeed, I have never seen any barn-yard fowls half so tame.

The various snakes, the many-coloured fish, the great eels, enormous and voracious sharks, large molluscs, curious Lepidoptera, and spiders, with their webs stretching in every direction, and occasioning us much annoyance, seemed to have quiet possession: all gave a novelty to the scene, that highly interested and delighted us. In the afternoon we returned on board, loaded with specimens; and the survey being completed, we bore away on our course.

There are no cocoa-nut palms on the island; nor is there any fresh water to be found. Some of our gentlemen saw on the beach some broken oars and remains of a boat, but nothing could be identified.

Pandanus trees exist on the south side.

On the 23rd of August we made the Disappointment Islands of Byron: they are two in number, called Wytoohee and Otooho.

On the morning of the 24th, we were off the north-west end of the former island. Many canoes came off to the ship: as they approached the vessels, the natives were heard, while at some distance, singing; and, as they drew near, the clamour increased, accompanied with much laughing, and many gesticulations; but none of them could be induced to come on board, and they were not willing to part with anything but some pieces of old matting. An attempt was made to get some of their paddles, but they rather ridiculed the idea of parting with them.

The canoes were quite small, being only from twelve to fifteen feet long. They generally contained two, and sometimes three, natives. Each canoe had an outrigger, and a projecting point, both before and behind, by which they get into them from the water. They are formed of strips of cocoa-nut wood sewed together. Two persons can carry them. Their paddles were curved backwards.

In order to dispel their fears, articles were given them gra-

tuitously, and by way of showing their gratitude, they began a monotonous song or chant. They would occasionally stop, look up, and return the laugh of the crew by a grin; apparently enjoying the sport as much as any of them.

These natives are peculiar, and appeared totally distinct from any others we met with in this group, having strong wiry beards and mustaches and a different physiognomy.

NATIVE OF WYTOOHEE.

I sent one of the boats to the shore, with the interpreter, but they refused to allow them to land. No actual violence was attempted, but Lieutenant Case reported the impracticability of landing without opposition, and injury to themselves and natives. They received several presents, but they had no fruit to give in return, as their cocoa-nuts were tabooed. They gave in return, some articles, consisting of cloth, fish-hooks, adzes, and pearl-shells. Among the articles seen in their possession, was a fine silk pocket-handkerchief, showing that they had had communication not long since with vessels. They refused to part with their spears or clubs. Their adzes were rudely made, but ground very sharp; they were formed of the tridachna or cassis-shell, lashed on a handle somewhat resembling our adze-handles. Knives were also observed in their possession.

Wytoohee is formed of islets connected by a washed coral reef, of irregular shape, with a lagoon having many knolls in it, of various sizes, some four or five feet above the surface.

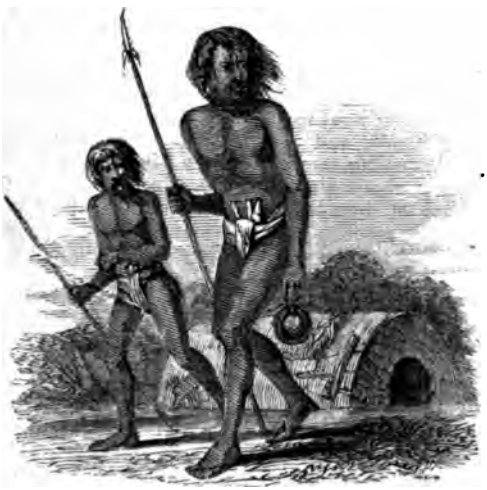
The natives who had refused to allow us to land, were afterwards seen waving green boughs, which is the general sign of good will, and a desire to have communication, and many were seen dancing on the beach, with their spears in their hands. The boats were sent to the shore, but on reaching it found them still averse to our landing. They were extremely desirous of obtaining buttons, pieces of iron, and cloth. We gave them several small articles, but they could not be persuaded to part with their spears and clubs. The chief, who was a very old man, was seen lying under a Pandanus tree, close to the beach, and on being told I wished to see him, and make him a present, he arose; his hair was quite gray, and he had a long and stiff white beard: his legs were enlarged with the elephantiasis, the swelling being of a white colour, and so large and regular that many thought he had on sailors' trowsers. About twenty natives were with him on the beach. After being shown the presents I had for him, he was induced to wade into the water up to his neck to receive them. On coming alongside the boat, he seemed somewhat uneasy, until he had gone through the ceremony of rubbing noses, which I must confess was anything but agreeable with so dirty and diseased a person. He was extremely anxious to

get hold of the presents, and amused us by at once plunging them under the water, seeming in no manner concerned about keeping them dry. He was all the while making a noise like the purring of a cat. In return for my presents, he at once offered me the short mantle of matting which he had over his shoulders.

They understood the Tahitian language. The chief gave his name as Korokoa, and the name of the island as Wytoohee. He appeared about sixty years of age, and his teeth were all sound and good.

His brother was the priest, to whom I also gave some presents. This man had a very remarkable head, the forehead being very high, and narrow almost to deformity, with a dark and suspicious bright eye. His hands were deformed, being destitute of joints, and the lower part bent at right angles. The son of the chief was a remarkably fine-looking lad of fifteen. We saw no women, as they had all been hid. The colour of these natives was much darker than those seen before; in some the hair was inclined to frizzle, and the beard curly. All the grown men that I saw had mustaches; their features were strongly marked with a good-humoured expression of countenance; they wore the maro, and some had a few feathers in their hair.

At the east end of the island, some half a dozen natives were seen; at first these seemed quite timid, meeting the advances made in a



NATIVES OF WYTOOHEE.

manner which showed that they were anxious to propitiate us, but still fearful. They were reassured of our good-will by offering them some small presents, when two old men came forward, holding their arms upright above their heads, with their hands open, and became

desirous of shaking hands, and even offered to rub noses. Each was armed with a stick, (for it could not be called a spear), six or seven feet long: on some of them were fastened the jaws of the porpoise.

They appeared to be greatly astonished, and their looks bespoke amazement at our appearance. Occasionally, as if to satisfy themselves of the reality, they would put their hands on us. On receiving a few trifling presents, they broke forth into the same song or chant that was heard on their first coming towards the ship. The younger ones were the first to show confidence, and were much disposed to laugh and joke with the men.

On our gentlemen requesting to go to their huts, they seemed to be thrown into a kind of stupid wonderment, but on being assured they had nothing to fear, their countenances brightened up, and they led the way through the wood to an open space, surrounded by pandanus and cocoa-nut trees. These natives had evidently had communication with vessels, but I very much doubt if any had landed before. They did not appear at all alarmed at the firing of guns, but were much surprised to see the birds killed, holding up their hands, and making ejaculations. They had no idea of the principles of barter, and allowed anything to be taken without opposition, receiving any articles in return with gratitude and delight. Iron was prized more than any other thing. On reaching the huts, inquiry was made of them for their women, when a general burst of laughter ensued, and they gave us to understand that they had penetrated our motive for visiting their island—"that as we inhabited an island without any women, we wanted to have some." Nothing more was said to them on the subject. They accompanied us to the boats, and at parting went through the same ceremonies of rubbing noses, shaking hands, and raising their arms with their palms towards us. According to the estimate I made of the inhabitants, the number was about ninety. From the great age of the chiefs, and the absence of wounded or scarred individuals, I should conclude they lived in peace. They, however, gave their neighbours on the small island to the west (which they called Otooho) a very bad name.

Otooho lies west-north-west of Wytoohee, distant twelve and one-third miles, and is distinctly seen from it, like a round knoll. This appearance is owing to the trees upon it, for the land is as low as coral islands usually are.

The superficial extent of the island of Otooho is about a square mile; it has no lagoon, is well covered with trees, and has fresh water. There were nineteen men counted, which would make the population about fifty souls. No women or children were seen.

At all the inhabited islands we found the greatest numbers of the common house-fly: while at Honden Island (uninhabited) none were perceived. No one can estimate the annoyance they cause, until it has been experienced.

On the 29th, at daylight, land was reported, and we soon ascertained that it was not laid down on the charts. It is low, nearly of a circular form, and well covered with trees and shrubs, and has a

lagoon of some extent. I named it King's Island, after the man at the mast-head, who first discovered it. After completing the survey of it, we landed on its lee side, where the water was quite smooth, and spent the afternoon in examining it. There were no natives on it, but every indication that it had been inhabited recently by a party of pearl-fishers. The lagoon appeared to be well supplied with pearl-oyster. We found on the island two small springs of fresh water, near its lagoon, and a good supply of cocoa-nuts. Many specimens of plants were obtained, and several interesting objects of natural history were added to our collections.

In the morning we bore away for Raraka, and shortly afterwards made it. As we approached it, another island was discovered, to the northward and westward, which was not laid down on any charts.

On Raraka we soon discovered a party of natives, near the entrance to the lagoon, waving a Tahitian flag, three horizontal stripes, red, white, and red. They were partly dressed, some in shirts, without hats, others with vests, and others again with trowsers of all colours. We landed at the entrance of the lagoon.

Nothing could be more striking than the difference that prevailed between these natives and those of the Disappointment Islands, which we had just left. The half-civilisation of the natives of Raraka was very marked, and it appeared as though we had issued out of darkness into light. They showed a modest disposition, and gave us a hearty welcome. We were not long at a loss as to what to ascribe it; the missionary had been at work here, and his exertions had been based upon a firm foundation; the savage had been changed to a reasonable creature. Among the inhabitants was a native missionary, who had been instrumental in this work. If the missionaries had effected nothing else, they would deserve the thanks of all those who roam over this wide expanse of ocean, and incur its many unknown and hidden dangers. Here all shipwrecked mariners would be sure of kind treatment, and a share of the few comforts these people possess. No savage mistrust and fear were seen here. The women and children came about us, receiving our trifles. They showed much joy and curiosity at the sight of us, and were eager to supply our wants.

I was particularly struck with the modest and quiet behaviour of the native missionary, who was a Tahitian. He kept himself aloof, whilst all the others were crowding round to partake in the presents we were distributing, and seemed much gratified and astonished when I selected him out as the recipient of a present similar to the one I had given the chief.

All the males' heads were shaven, somewhat after the fashion of a Dominican friar. This practice is said to have been adopted by the missionaries at Tahiti, for the sake of cleanliness, and also to distinguish the Christian from the heathen party. The women have theirs cut close, and some are clothed in a pareu, consisting of three or four yards of cotton, others in a loose gown. They were anything but good-looking; but the men were tall and well made. The variety of apparel was droll enough. As for the children, I have seldom seen

finer; all were well formed, and as cheerful as they could be. They were for the most part naked.

This was the first island on which we observed the dawning of Christianity and civilisation. The native missionaries, although they are yet ignorant of most of the duties enjoined upon a Christian, still do much good in preparing the way. Many learn to read, and some even to write, under their tuition; yet they have many impediments thrown in the way of their efforts by the introduction of spirits by the whites. The old chief, and others, are much addicted to the use of it, and the vessels resorting here for the pearl-fishery generally employ native divers, and pay them for the most part in rum or whiskey. We found here an Englishman who had belonged to a schooner engaged in the pearl-fishery. He told me he had been left there sick by his captain, and had been kindly treated during his stay of three months on the island. I was in hopes of obtaining some information from him, but he knew little or nothing of the language, and was, moreover, a stupid fellow. I gave him a passage to Tahiti, whither he was desirous of going in the tender.

Having some business on board, I invited the chief to go off with me; he first inquired if all the boats and men were to stay; on my telling him they were not, he said he would go on board if I would also take his wife and her brother; to which I consented.

The chief had lost one hand, which he informed me had been bitten off by a shark whilst employed in diving for shells. We

PORTRAIT OF THE ONE-HANDED CHIEF.

became great friends, and he thought it necessary to be at my side the whole time. He was an odd old man, and proved before we left him that he had become acquainted with some of the vices of civilisation.

We all embarked, soon reached the tender, and bore away for the ship, some three or four miles distant. The old one-handed chief

now came up to me in a very mysterious manner, and, untying a knot in the tail of his shirt, (which was the only garment he wore besides his maro,) with no small difficulty, with one hand and his teeth, drew from it a small, dirty piece of linen, tied up as a bag; this he produced with great form, and evidently expected to astonish me. The contents proved to be a few small discoloured pearls; these he begged me to accept, but I declined to receive them. We now reached the ship, and I ordered everything to be shown them. Their surprise was very great.

The natives were much amused with the ship, and surprised at the number of men on board. Many small presents were given them. When they were about taking their departure, the old chief complained of being quite sick, and his whole air and manner showed that he was much dissatisfied. The reason could not be imagined. The vessel had so little motion, it was thought it could not originate from sea-sickness. I therefore told the interpreter to inquire of him what was the matter. No answer was given for some time, but they consulted much among themselves in a low tone. The question was repeated, when the old chief's wife answered, "that I had not returned the present that had been offered me, and that the chief was not pleased; for, according to their customs, the offering a present to me entitled him to receive one in return." As very many gifts had been made him already, this amused me not a little. On asking what it was they wanted, they at once signified whiskey, which they said was always given them when they went on board ship; and the chief wanted some, for he was very sick. I accordingly ordered a bottle of water with a gill of whiskey in it to be given them, and the moment they smelt it their manner was changed; they became all animation, and left the ship in great good humour. The brother was an intelligent native; he drew for me with a piece of chalk, on the deck, with considerable accuracy, all the islands he was acquainted with, giving their relative situations and the native names;—that of the island we had seen the day before, as Tai-a-ra, and the one to which I had given the name of Vincennes Island, as Kawahe. He informed me of three small islands to the southward of Sacken, which were afterwards found by the Porpoise, during the cruise to this group on which I sent her in 1840; his knowledge of the western part of this group was quite surprising.

This island is nearly of the shape of an equilateral triangle, and its southern and eastern sides are formed by a submerged reef. It is fifteen miles on each side.

We attempted to sound the lagoon, and began at the entrance, but found, within a very short distance, that the depth increased to thirty fathoms, the water being as blue as that of the ocean. So great a depth made it an undertaking far beyond what my time allowed. The sounding, in every case of any depth, was coral sand.

Towards sunset we all embarked, and my leave-taking with the old chief was amusing. He with all his household and retinue began to cry and whine over me, so that I was glad to escape from the display of so much friendship and parental affection.

This night we lay-to under the lee of Raraka ; but as it proved dark and squally, we stood to the northward, and about one o'clock we were surprised by seeing a signal from the Peacock, of danger close aboard, under the lee. I immediately tacked, and we soon cleared it. It proved to be the reef of Kawahe, over which the surf was breaking violently. The Peacock was so close to it that Captain Hudson felt himself obliged to stand on his course, rather than run the risk of missing stays, and continued to run along it for several miles, until, by its trending to the westward, he was enabled to clear the danger.

On the morning of the 2nd of September we landed on Vincennes Island, and obtained the usual observations. It was found to be sixteen miles long by ten wide ; its greatest diameter lying north and south. It is a narrow annular ridge, consisting of many blocks

NATIVE OF PAUMOTU GROUP.

and slabs of coral, which give a clinky sound when struck. The coral shelf seemed to dip in one place at an angle of 15°, forming a ridge, which was so low that the tide flowed over it before high water. There is an opening into the lagoon on the south-west side ; on its south-eastern part is a high clump of trees, looking like a knoll at a distance. The rest of the island is covered with a growth of bushes ten or twelve feet high. The blocks and slabs above spoken of were very much water-worn, and were strewn about on the coral shelf. This, where I measured it, was five hundred feet wide, but it is not of equal width in all parts. There were a few inhabitants on Vincennes Island, but none were seen by us.

After finishing our observations, we made sail for Aratica or Carlshoft Island. We arrived off it in time to secure its connection with Vincennes Island ; the distance was found, by patent log and astronomical observations, to be twenty miles to the westward. The next morning, at daylight, we began its survey. Its southern side

is submerged until near its south-western end, which is twelve feet high, and thickly wooded. On rounding the point, we saw a white flag waved by several natives on the beach. I immediately dispatched a boat with an officer, who brought off two of the principal natives, one of whom spoke a little English, and proved intelligent. As the tattooing was somewhat peculiar, a drawing was made of one of them.

There were about twenty natives on the island, and they have had frequent intercourse with vessels. Aratica is eight miles in length by five in breadth.

The course of the squadron was shaped towards King George's Group. The next day, at noon, the most southern island was in sight, and finding the ships could not make it without much loss of time, I dispatched the tender to the group, with orders to circumnavigate and examine the islands; the Vincennes and Peacock bore away to the westward, for the doubtful island of Waterlandt. It was soon discovered from the masthead.

We reached its north point at four o'clock, P.M., when the Peacock was ordered to take the east, whilst the Vincennes took the west side; we continued the survey until dark. Many natives were seen, and smoke was rising in several places. On the 6th of September, we continued our surveying operations, and shortly afterwards joined the Peacock, Captain Hudson having completed his side of the island. The Peacock now made the signal of land to the westward. Wishing to land, and make an examination of this island, as well as to have communication with the natives, the boats were lowered, and the naturalists from both vessels, and many officers, landed, and rambled over the western part of the island for several hours. The few natives were very friendly, and informed us that the native name of the island was Manhii. This is, in all probability, the Waterlandt of Schouten and Le Maire, and also Wilson's Island of the Duff. There is a large and deep entrance in the south-east end into the lagoon of Manhii Island, in which the natives informed me vessels had often anchored, whilst engaged in the pearl-fishery. Soundings are not to be had with one hundred fathoms of line, fifty feet from the edge of it.

To our surprise, one of the men of the Peacock, by the name of Penny, here deserted from the boats. He had been formerly much among the islands, engaged in pearl-fishing, and spoke the language well. Strict search was made for him, until the officer in charge of the boats became satisfied that he had no intention of returning. On hearing of it, I was convinced that he had chosen this opportunity to leave us, particularly as he must have been aware that there is very frequent communication with Tahiti. The chief of this island informed us that he was a relative of the one-handed chief of Raraka.

Several of us had our feet severely blistered from going barefoot on the reefs, and were made very uncomfortable from this cause. After returning on board, we bore away to the other island, to which the natives gave the name of Ahii. I have also added that of Peacock Island, to mark that its correct position was first

established by the Expedition. It lies west three-fourths north per compass from Manhii, and was found to be eight and six-tenths miles from reef to reef. On coming up with it, the Vincennes and Peacock took opposite sides, and surveyed it; and the next morning parties landed. I was hardly able to move, on account of my feet, but the desire of getting observations of the eclipse urged me to make the attempt; I only succeeded in getting the last limb and good observations for time. After four o'clock, we returned on board. This island is not inhabited, and has only a small boat-entrance into its lagoon, on the west side.

Being desirous of making the examination of as many of the coral islands as possible, I now dispatched the Peacock to the Arutua or Rurick Islands, with directions to examine them, and then to proceed along the south side of Dean's Island, whilst in the Vincennes I steered for the north side of the latter, to pass along it. We then parted company, and Dean's Island was made by us the next morning; we ran along the northern shore, and reached its western point at four, P.M. During the day we passed an entrance into its lagoon, and some natives came off from a small village in two canoes to visit us. They acknowledged themselves subjects of Queen Pomare, of Tahiti, and were very desirous we should land. They brought off a few shells, and told us they had many fowls, pigs, taro, &c. There are several islets in the lagoon covered with trees. Vast numbers of large blocks were seen lying on its reef. The shore-reef is not more than two hundred feet wide, and is composed of only one shelf. When off the western point we discovered Krusenstern's Island to the west, and hauled up to pass between it and Nairsa. The passage was found to be twelve and two-thirds miles wide, and free from all danger. In the evening I stood for Metia Island, to the southward. Nairsa or Dean's Island was found to be sixty-six miles in length.

On the morning of the 9th of September, we were in sight of Metia or Aurora Island. It was totally different in appearance from those we had met with, though evidently of the same formation. It was a coral island uplifted, exposing its formation distinctly, and, as such, was very interesting. On approaching its eastern end, I sounded at about one hundred and fifty feet from its perpendicular cliff, and found no bottom with one hundred and fifty fathoms of line. The cliff appeared worn into caverns. We landed close in its neighbourhood, and on measuring its height, it proved to be two hundred and fifty feet.

The same evening we bore away for Tahiti, at which island we arrived on the 10th. At five, P.M., Lieutenant-Commandant Ringgold boarded us, and brought off Jim, the pilot; he reported all well on board the Porpoise. At sunset, we anchored in Matavai Bay. I hastened to ascertain the correctness of our chronometers, and the next day landed the instruments on Point Venus, and took observations. They gave for its longitude 149° 31′ 13·5″ W. Krusenstern makes it 149° 29′ 17″ W.

Lieutenant-Commandant Ringgold, in the Porpoise, after parting company on the 1st of September, proceeded to the south side of

Raraka, in fulfilment of his instructions. He found the whole southern part of it a bare reef, with the surf breaking violently over it. When off the south point, he made the isle of Katiu or Sacken to the south, and that of Makima to the east, and connected them; after which he proceeded to the westward, passing Aratica (Carlshoff), and thence to Nairsa, or Dean's Island, which he made on the 5th; fixed its western end, passed along its south to its western side, and thence to Krusenstern's Island, to the westward, which he circumnavigated; from thence went direct to Tahiti, anchored in Papieti Harbour on the 9th, and the next day proceeded to Matavai Bay, the place of rendezvous.

On the 12th the Peacock arrived, having passed to the Rurick Islands or Arutua, the north end of which lies in latitude 15° 15′ 00″ S., longitude 146° 51′ 00″ W. A landing was attempted at several places in the boats. One of them succeeded near a cocoa-nut grove, but the two that went to land at the village found the surf too high to attempt it.

The north shore of Arutua Island was surveyed, when they bore away, and connected it with Nairsa, or Dean's Island, along which they ran the whole length of its south side by daylight. The last named island is, for the most part, a washed reef, with no opening. The compact coral blocks showed themselves here more conspicuously, and in greater numbers than before seen.

After making the west end of Nairsa, Captain Hudson sighted Krusenstern's Island, and then stood for Metia Island, to the southward, on which the officers landed the next day on its western side. Their examination confirmed the facts already given relative to its appearance.

The next day they made Tetuaroa, to the northward of Tahiti, formerly celebrated as the resort of the Tahitians, for the purpose of recovering from the bodily diseases brought on by their debaucheries, &c. It is a low island, about six miles long, with a few trees upon it, and a reef off its southern end, extending half a mile. It is plainly to be seen from the high ridges of Tahiti.

On the 14th the Flying-Fish arrived. She had visited and surveyed King George's Group, which appeared well inhabited, and have entrances to their lagoons on the west side. The native names of the two islands are Tiokea and Oura. Oura bears S. 68° W., distant four and a half miles. Then the tender passed to Manhii and Ahii, round the north side of Nairsa, or Dean's Island, to Tahiti.

Little appears to be known of the history of the Paumotu Islands, or their inhabitants. At Tahiti, I obtained some information from one who had been much among the group, and believe that it is as authentic as can be obtained, and may be relied on.

The Island of Anaa, or Chain Island, has been the principal seat of power, the natives of which had frequently waged war on the others, and succeeded in conquering all to the west of Hau, or Bow Island, with which they have frequently fought.

In the reign of the first Pomare, under Tomatiti, they even attempted the conquest of Tahiti, and succeeded in overcoming the

small peninsula of Taiarabu. The story is, that they were about to continue their attack on the larger island, when Tomatiti received a written letter from Pomare, which caused hostilities to be suspended; and, after further negociation, finally led to Tomatiti's retiring from the island with a large present of hogs, tapa, &c. Notwithstanding this, the Chain Islanders remained nominally under the government of Tahiti, and now acknowledge their dependance on it.

Anaa or Chain Island is one of the smallest, yet it is the most thickly populated island of the whole group. It is said to contain five thousand inhabitants, which large number is accounted for by the conquest of the other islands, and taking their inhabitants off as captives. In the list of the islands and their population, it will be seen how few remain on the other islands in comparison with this number. The whole island is one cocoa-nut grove, and the principal food is fish and cocoa-nuts. The former are caught in large quantities in the lagoon. A great change has been brought about in the character of these islanders within the last twenty-five years, during which the Tahitian missionaries have been established at Anaa. Before this period, the inhabitants were cannibals. Since the residence of the missionaries, they have imbibed better tastes; and the Christian influence has also made them more peaceful. This change was first evinced by the treatment of their captives, whom they allowed to return, if they chose, to their own island; but very many of them had married at Anaa, and became permanent residents there, and few have taken advantage of the permission to return. Notwithstanding the numerous population, they are said to have an abundance of food. The people of Anaa still consider the inhabitants of the eastern islands as cannibals; but their statement in this respect is little to be depended upon, for they have no communication whatever with those whom they class under this denomination, seldom extending themselves beyond Hau or Bow Island.

The Paumotuans are considered more warlike than the Tahitians, for which reason Pomare I. kept a body-guard of them in preference to his own subjects. They have the reputation of being an honest and trustworthy race.

These islanders are certainly not all from the same stock: and those of the Disappointment Group, whom we were much struck with at the time of our visit, in particular differ from the others. Since we have seen all the different Polynesian groups, these appear, however extraordinary it may be, to resemble the Feejee Islanders more than any other.

By all accounts, they speak a different dialect from that of the Tahitian nation. The difference is, however, not great, for I was told that it required but a few weeks for any of the natives to acquire it. Mr. Hale met several Paumotuans at Matavai Bay, and among them he found one by the name of Tuoni, who confirmed the accounts I have detailed above.

The population of this group I have nowhere seen given: I have, therefore, endeavoured to obtain the most satisfactory information

in relation to it; the whole amounts, in round numbers, to about ten thousand, as follows:

Anaa	5,000
Manhii	100
Aratica	60
Nairsa	70
Metia	350
Rurick	200
King George's	700
Vincennes	30
Raraka	40
Wytohee	70
Otooho	40
Bow Island	60
Manga Reva, or Gambier Island	2,000
Serle Island	30
Clermont de Tonnerre	120
	8,870
Rest of the group	1,130
	10,000

The advancement of civilisation, by their intercourse with the whites, together with the missionary influence, will put an end to cannibalism, and promote peace among all the islanders of the group; not only ameliorating the condition of the natives, but protecting the unfortunate mariner who may be wrecked within this dangerous archipelago.

From what has been said of the Paumotu Group, it is evident it can afford but few advantages for commercial enterprise; the only article which of late years has been sought for among the islands is the pearl oyster-shell, of which considerable quantities have been obtained. The vessels engaged in the fishery belong to foreigners, who reside at Tahiti. The mode of taking the oysters is by natives, who are employed as divers, for a very small compensation. It is much to be regretted, that the traders should have recourse to the demoralising effects of spirits in stimulating their exertions.

CHAPTER XI.

TAHITI.

General Aspect of Tahiti—Arrival and Reception—General Figure of the Island—Its Geological Structure—An Observatory established—Survey of Harbours—Height of Mountains—The Governor of Mataval—His Hospitality—Church at Mataval—Character of the Natives—School at Papieti—General Diffusion of Education—Complaints of the American Consul—Council of the Chiefs—Influence of the Missionaries—Change of the National Dress—General View of the Labours of the Missionaries—Improvement in the Native Character—Causes of Want of Industry—Constitution of Tahiti—Courts of Justice—Queen and Royal Family—Judges of the Supreme Court—State of Parties—Case of the Catholic Priests—Dwellings of the Natives—Appearance of the Females—Dress of the two Sexes—Taste of the Natives for Flowers—Cookery and Mode of Eating—Music of the Islanders—Expedition to Lake Waiherea—Foreign Trade of Tahiti.

THE beauty of the distant view of Tahiti has been celebrated by all navigators, but I must confess that it disappointed me. The entire outline of the island was visible for too short a time and at too great distance to permit its boasted features to be distinctly seen. Upon a second and nearer view, its jagged peaks, and rugged inaccessible mountains were visible, but we looked in vain for the verdant groves which are said by all writers to clothe it. These indeed exist, but are confined to a narrow belt of low land, lying between the mountains and the shore; and, being unseen at a distance, the general aspect of the island is that of a land recently thrown up by volcanic action.

When, however, Tahiti is approached so near as to make separate objects visible, the contrast between it and the barren coast of Peru becomes striking. Even upon the steep surface of its cliffs, vegetation abounds; the belt of low land is covered with the tropical trees peculiar to Polynesia; while the high peaks and wall-faced mountains in the rear are covered with vines and creeping plants. This verdure is seen to rise from a quiet girdle of water, which is again surrounded by a line of breakers, dashing in snow-white foam on the encircling reefs of coral. Such objects are sufficient to form a beautiful landscape, and my disappointment probably arose in part from finding every thing more diminutive than I had been led to imagine from the highly-wrought descriptions I had been perusing only a few days before.

We were surrounded, even before we anchored, by canoes of all shapes and sizes, whose crews made a prodigious clamour. I at once interdicted any one who was not a chief from coming on board; but upon this being announced, every one claimed to be a chief of

some description or other. Only the great chiefs, therefore, were admitted. These came off in whale-boats, which are now superseding the canoe, and brought with them trifling presents of fruit. It was soon found that their errand was not one of mere ceremony, but was intended to solicit the washing of our dirty linen, a business which is among the prerogatives of the queen and chiefs. I was informed that the queen, being *enceinte*, was residing on the opposite side of the island, which would prevent her from paying us a visit. I was, therefore, at liberty to choose a less distinguished laundress, and spared the pain of resisting her royal solicitations for soap, an article much needed and in great request at Tahiti.

I was glad when the night closed in, to be rid of our numerous visitors. The pilot, who goes by the name of "English Jim," was equally so, for he chose to be considered as the only privileged person, and besides, was looking somewhat to his own profit in the line of clothes-washing, a business which the presence of the chiefs threatened to interfere with. Jim is quite a respectable-looking man, dresses in the European fashion, and speaks English, which he has acquired on board of whale-ships, tolerably well. Although a good pilot, so far as a knowledge of the shoals go, he does not understand what to do with a vessel in case of difficulty. He told me that he had been looking out for vessels for some days, for it had thundered.

The two peninsulas, if they may be so termed, of which the island of Tahiti is made up, are of very different characters. The smaller one, called Tairaboo, and usually spoken of as "the small island," is said to be the most fertile: it possesses some harbours, but they are little better known than they were half a century ago. Both peninsulas possess twenty-four harbours, including the good and bad. Tahiti Proper contains the best, and therefore engrosses all the commerce. It has in consequence been for many years the seat of government.

The whole island is of volcanic formation, but there is no longer any active igneous action, nor is there any well-defined crater to be seen. Coral reefs, with occasional openings, are attached to the shores, and the larger island (Tahiti) has also a sea reef. Between the two reefs is an almost continuous channel for boat navigation, and on the northern side they enclose many safe and commodious harbours for shipping. On this side also vessels may pass from harbour to harbour, within the outer reef. This reef varies in breadth from a few yards to fifty, or even a hundred. The shore that adjoins the coral reef is formed of black volcanic sand, occasionally mixed with comminuted shells, which give it a grayish hue. Basaltic ridges reach the sea at intervals, and form projecting points of moderate elevation.

An observatory was established at Point Venus, and furnished with both astronomic and magnetic instruments; and as soon as the repairs of the vessels had made such progress as to permit it, parties were formed for the survey of the four principal harbours and the channels between them. These harbours, Matavai, Papaoa, Toanoa, and Papieti, are so important to the many whale-ships which

visit this island, that I felt it an imperative duty to obtain accurate charts of them all. At the same time, a large party of officers and naturalists was ordered to cross the island, to reach, if possible, Orohena, one of the highest peaks, and to visit Lake Waiherea.

The mountains were obscured by clouds during the whole time of my stay, and no angles could be taken for the measurement of their heights, nor could the party I detached for the purpose reach their summits; but the Peacock remained for some days after my departure, and Captain Hudson, with his officers, succeeded in measuring the height of Aorai, the peak which is next in height to Orohena. This he found to be six thousand nine hundred and seventy-nine feet; and as Orohena appeared to be about one thousand five hundred feet higher, the height of the latter peak may be set down as about eight thousand five hundred feet above the level of the sea. From these two peaks ridges diverge to all parts of the coast, throwing off spurs as they descend. These ridges are precipitous, and for the most part narrow. In many instances their summit is a mere edge, making walking upon them not only dangerous, but often impossible.

The governor of the district of Matavai, Taua, was the first acquaintance of any distinction that we made. He had already visited the Vincennes on her anchoring. He is a fine-looking man, of huge proportions, and has a large establishment near Point Venus, where he monopolised nearly all the washing, which was performed by his numerous dependents. By this business he derives some remuneration for the cost of feeding and clothing them, putting the gains of their labour into his own pocket. Such, at least, is his own account of the transaction.

Taua's usual dress was a striped cotton shirt, nankeen pantaloons, that had once been yellow, and a round jacket of blue cloth. Both shirt and pantaloons were too tight, and he had neither suspenders nor stockings, although he wore shoes. In this guise he had an awkward look, which he probably would not have exhibited in a native costume.

He was profuse in offers of hospitality at his own house, and many of the officers were induced to accept his invitations. His entertainments appear to have been of the same general character with that to which I was treated, and which will, therefore, serve as a specimen of the mode in which such things are done by the "good society" of Tahiti.

We reached his dwelling in time to see the preparations for the feast. These were entrusted to his man of all work, Stephen, or, as he called him, "Stiffin." This useful personage exhibited his dexterity, not only in cooking, but in killing the poultry. The bird selected was a cock, for the Tahitians well understand the difference in value between it and the hens; and Stephen exhibited much adroitness in the slaying, plucking, and dressing. While this was going on, the stones for the Tahitian oven, so often described by voyagers, were heating, and when they had acquired the proper temperature, the ashes were carefully swept off—bread-fruit, taro, and plantains, wrapped in leaves, were then laid on the stones, with

the fowl in the centre, and the whole covered up. In about an hour the oven was carefully opened, the contents exposed, and found to be thoroughly cooked. The dinner was then served in an earthen dish, with a knife and fork, when, although the fowl was somewhat tough, it was greatly relished. The dinner hour was one o'clock.

Taua, according to the universal opinion of the squadron, did not improve upon a closer acquaintance. His intrusive and greedy disposition, not to mention his fondness for the bottle, rendered him daily a less welcome visitor than at first. I must, however, do him the justice to say, that if he were wanting in other traits of character that ought to distinguish a chief, he did the honours of his house admirably, and that he must be seen in the capacity of a host, if a favourable opinion is to be formed of his character.

On the invitation of the Rev. Mr. Wilson, I visited him at the mission-house, and was kindly received. This gentleman is seventy-two years of age, and is the oldest missionary on the island. In spite of his advanced age, he still performs all the duties of his cure. The church and the parsonage are both frame houses. The former, which is neatly built, is capable of containing a large congregation. The Sabbath occurred on Saturday, by our reckoning, and all labour was suspended. I thought the attendance on worship small, compared with what I had been led to anticipate. There were less than two hundred persons present, and they did not appear to be as attentive as they had been represented. The women were more numerous than the other sex, and were dressed in a most unbecoming manner. They wore high flaring chip bonnets of their own manufacture, loose gay-colored silk frocks, with showy kerchiefs tied around their necks. Nothing can appear more *outré* than they do in these habiliments, and I was at a loss to conceive how they could, in particular, have been induced to adopt a covering for the head, which affords no protection from the sun, and is in consequence so ill-adapted to the climate.

A Tahitian changes his residence without difficulty or inconvenience; food is everywhere to be had in abundance, and lodgings never enter into his calculation. While the squadron was at Matavai Bay, the number of those who appeared to inhabit its shores would have given a very erroneous estimate of the usual population. They were assembled from every part of the island, and the right of occupying each spare nook in the houses of the permanent settlers seems to be universally admitted. When this resource fails, they are to be seen beneath trees, or upon the beach, within a few feet of the water's edge, sleeping as soundly, although without any covering, as if they were beneath their own roofs.

In our whole intercourse with the inhabitants of Tahiti, we did not hear of a single act of theft, although there were innumerable opportunities for its commission, without the possibility of immediate detection. They seemed always in good humour, gay, happy, and cheerful; nor did I witness a single quarrel among all the crowds that were assembled at Point Venus, during our stay. They are, however, inveterate beggars.

At the invitation of Mr. Pritchard, I visited the school under his

direction at Papieti. This gentleman was, a few years since, a missionary, but now holds the station of Her Britannic Majesty's Consul. He has not, however, abandoned all his missionary duties.

The school is held in the church, a large frame building, much like a New England meeting-house. It has numerous windows, a large gallery, and pews capable of containing a great number of people. All who were present were well dressed, and the assemblage, except from the colour of their skins, could have been with difficulty distinguished from a Sunday-school in the United States.

The exhibition of the schools did not surprise me so much as the fact that few natives are to be met with who cannot both read and write. This was not confined to the younger part of the population, but was true even of those advanced in years. I also learned that they had schools among themselves, and that parents were well aware of the advantages attendant on sending their children to them. In these schools great pains are taken to inculcate cleanly and industrious habits, with sound moral and religious principles.

The hours of attendance are confined to the forenoon, and during these the schools are crowded. The parents are unwilling that their children should be confined for a longer time.

Our Consul, Mr. Blackler, had made complaints to me as soon as I arrived, of the conduct of the queen and government, and asked my interference. The charges consisted in the following items :—

1. The seizure of an American whale-boat, and ill-treatment of the crew.
2. That fines had been unjustly imposed on American seamen.
3. The refusal to apprehend deserters from American ships, or to provide a place for their safe keeping.
4. The evasion of a promise to provide a place for the transaction of the consular business.

In consequence of these complaints, I had immediately requested that a council of the chiefs might be held, and the 17th of September was appointed for the purpose. On this day I ordered all the officers that could be spared from the vessels to attend. Captain Hudson and myself set out at an early hour, accompanied by several boats. We passed down through the reefs, and reached Papieti at ten o'clock, where we were joined by our Consul, and in his company proceeded to the building which has been mentioned as the scene of the exhibition of the schools. Here we were received by Mr. Pritchard, who politely showed us to the seats we were to occupy. He then called the names of the chiefs, and each answering in his turn, took his seat on the side of the building opposite to us.

The meeting being ready for business, I read from a paper a list of the grievances complained of. This was translated sentence by sentence by a Mr. Darling. When I had finished, Paofai, a chief, who holds the office of chief judge, appeared to make a reply. He began by apologizing for the absence of the queen, caused by her approaching confinement, and then requested a copy of the paper which had been read, in order that it might be considered and answered. He stated that it included too many points to be decided

upon and answered at once, but promised that the matter should be examined, and the business concluded as speedily as possible.

This request was so reasonable, that I at once assented to it. I thought the proposed mode far better, and it was more agreeable to me than a public discussion would have been, in which confusion could hardly be avoided. I therefore broke up the meeting, after stating that I should look for a satisfactory reply on my coming in the Vincennes to Papieti.

PAOPAI.

Many of the chiefs seemed disposed to act correctly and do justice, at least they repeatedly expressed their good intentions. It was also evident to me, that their minds were greatly relieved by the moderation of the demands, for they had feared that these were to be of some extraordinary kind, and might, perhaps, include a claim for heavy damages. Indeed, since the large contribution levied on this island by the French, the government has entertained apprehensions, and dreads the arrival of men-of-war. These fears are taken advantage of by many ill-disposed residents, who omit no opportunity to practise upon their alarms, and to threaten them with foreign interference.

Much complaint has been made of the influence which the missionaries, and Mr. Pritchard in particular, exercise over the government at Tahiti. They have, unquestionably, great influence; but I am satisfied that they are justly entitled to it. Indeed, I cannot but consider it as part of their duty, nay, the great object of their mission, to acquire and exercise a salutary control over their converts, both of high and low degree. My own observations satisfied me that this control is exerted solely for the purpose of fulfilling the laudable object for which they were sent. It is possible that their views of the proper method of instructing an ignorant people are not at all times, or in every respect, the most enlightened; but no one can with propriety question their pious zeal, or the honesty of their intentions. We may perhaps lament their intolerance towards other sects, but no one can visit the island without perceiving on every side the most positive evidence of the great benefits they have already bestowed, and are daily conferring upon the inhabitants.

All this good has been done in the face of many and great difficulties. The most serious of these is the evil influence of a large portion of the other foreign residents. Although among these are some who are truly respectable, the majority is made up of runaways from the English convict settlements and deserters from

vessels. These men, the outcasts and refuse of every maritime nation, are addicted to every description of vice, and would be a pest even in a civilised community. It may easily be conceived what an injurious influence such a band of vagabonds, without trade or occupation by which they can support themselves, guilty of every species of profanity and crime, must exert upon the morals of the natives, and what a barrier they must oppose to their improvement in morals and religion.

Tahiti, when first visited, was proverbial for its licentiousness, and it would be asking too much to require, that after so short an enjoyment of the means of instruction, and in the face of such obstacles, its inhabitants should as a body have become patterns of good morals. Licentiousness does still exist among them, but the foreign residents and visitors are, in a great degree, the cause of its continuance, and an unbridled intercourse with them serves to perpetuate it. Severe laws have been enacted, but they cannot be put in force in cases where one of the parties is a foreigner. I see no reason, however, why this island should be pointed out as conspicuous for licentiousness. When compared with many parts of the world that arrogate a superior civilisation, it appears almost in an advantageous light. Vice, at any rate, does not stalk abroad in the open day, as it did in some places we had lately visited upon the American continent. It would be unfair to judge of these natives, before they had received instruction, by our rules of propriety; and now many of those who bear testimony to the laxity of their morals visit their shores for the very purpose of enticing them into guilt, and of rioting, without fear or hindrance, in debauchery. Coming with such intentions, and finding themselves checked by the influence of the missionaries, they rail at them because they have put an end to the obscene dances and games of the natives, and procured the enactment of laws forbidding illicit intercourse.

The missionaries are far from overrating their own success in effecting an improvement in morals, and inculcating the obligations of religion. So far from this, I found that they generally complained that sincere piety was rarely to be found among the natives. However this may be, the external signs of moral and religious improvement are conspicuous. Many of the natives are scrupulous in their attention to Christian duties, and members in communion of the church. All are strict observers of the sabbath; indeed, nowhere is its institution more religiously attended to than in those Polynesian Islands which are under missionary influence. On that day no canoe is launched upon the waters, and no person is seen abroad, except while on his way to or return from church. When thus seen, they are neatly and decently clothed, although in very bad taste. At church, they form a respectable looking congregation, and listen with attention to the preacher.

The success of the missionaries in introducing this strict observance of a Sabbath, is ascribed by themselves in a great degree to its analogy to the taboo-days of heathen times, and the continuance of its sanctity is now insured by the penalties which await an infraction of it. The punishment for Sabbath-breaking consists in the offender

being compelled to make a certain number of fathoms of road, and upon a repetition of the offence, the number of fathoms is much increased.

Although much has been done for the improvement of the natives, still it appears evident that much more might have been done if the missionaries had not confined themselves so exclusively to teaching from the Scriptures. The natives, by all accounts, are extremely fond of story-telling, and marvellous tales of their ancestors and ancient gods are even now a source of amusement. The missionaries, as I am told, possess much information in relation to the history and mythology of the island, embodied in the superstitious tales still occasionally current among its inhabitants. It is to be hoped that they will preserve a record of these, before they are obliterated by their exertions to destroy the ancient superstition. But they would have succeeded sooner in eradicating the practice of reciting these legends, had they provided a substitute in works of fiction, inculcating moral and religious lessons, or teaching useful knowledge. So, also, while it was indispensable to put down those amusements which were the means or incentives to debauchery, this measure ought to have been accompanied by the introduction of innocent modes of recreation. For want of the first resource, much time is now spent in unmeaning gossip, and the necessity for the other is often shown in a listless idleness.

No attempt has been made by the missionaries to introduce the mechanic arts, or improvements in agriculture, yet it cannot be doubted, that to have taught them even the simplest of these, would have materially aided the progress of civilisation, and reacted favourably upon that of religion. The failure of a cotton manufactory, with expensive machinery, which was erected on the island of Eimeo, affords no argument against the probable success of less complex arts. The natives were not prepared to pass at once from habits of desultory exertion to the regular and stated occupation of the mill. But the spinning-wheel, the hand-loom, and the plough, would not have required such a decided change in the number of hours of labour, and would have served as a preparation for more continuous industry. The two former implements have at length been introduced by other hands, and have already been adopted with eagerness by some of the natives.

The change of dress which has been introduced by the missionaries and other foreigners, has, on the contrary, had an injurious effect on the industry of this people. While they wore their native tapa, the fabric, though of little value, gave employment to numbers of women; and this change of dress, intended as an advance in civilisation, has had the effect of superseding employment which formerly engaged their attention and occupied their time. The idleness hence arising, and the artificial wants thus created, have no little influence in perpetuating licentiousness among the females, to whom foreign finery is a great temptation. The European dress, at least as worn by them, is neither as becoming, nor as well adapted to the climate, as that which it has almost superseded. Many of the missionaries now see these things in their true light,

and informed me that they were endeavouring to pursue a more enlightened course.

My experience warrants me in saying, that the natives of Tahiti are honest, well-behaved, and obliging; that no drunkenness or rioting is to be seen, except when provoked by their white visitors and inmates, and that they are obedient to the laws and to their rulers. That they should be comparatively indolent is natural, in a climate where the fruits of the earth almost spontaneously supply the wants of nature, and where a mere animal existence may be maintained without labour. No people is, in truth, so independent of the aid even of their fellows as the Tahitians. A native may, in the morning, be wholly destitute even of implements wherewith to work, and, before nightfall, he may be found clothed, lodged, and have all the necessaries of life around him in abundance. These he derives from the cocoa-nut, the poorou (Hibiscus tiliaceus), banana, bread-fruit, and bamboo. That he does not find it necessary to call upon others for assistance, does not make him forget the duties of hospitality, but it does produce a thoughtlessness about his own wants, and takes away that incitement to labour, which is so powerful an aid in the promotion of civilisation. Still, I am satisfied that the Tahitians do not avoid labour, when they can work with profit to themselves. Those who were employed on board the squadron, where their pay was liberal and regular, performed their tasks faithfully and well; and they bear the same character for fidelity in the whale-ships, on board of which they are much employed. Some of them are now engaged in the culture of the sugar-cane; and a single native plantation was mentioned to me, of which the preceding year's crop had amounted to five tons. Coffee has also been planted, and succeeds remarkably well. Much more, too, would have been done in these productions had their industry been encouraged by the missionaries as a body; but, while some of them have done their utmost to stimulate the natives to exertion, others have altogether discountenanced any attempts to introduce new articles of culture.

One of the most important consequences of the introduction of civilisation has been the establishment of a settled constitution. This was framed by the missionaries in 1823, upon the model of that of England, and was revised in 1826. The royal authority includes the power of the veto, the nomination of the supreme judges, and of all officers connected with the person of the sovereign. The crown is hereditary, descending either to males or females. The legislative power is lodged in an assembly, composed of two members from each district, chosen triennially by the people. This assembly is convened annually for the purpose of remodelling existing laws, or enacting new ones. It has also semi-annual meetings, and may be convened more frequently, if necessary, for the discussion of questions of importance. All enactments of the legislature, before they become laws, are laid before the queen for her approbation and signature. When this is affixed, they are carried into effect by the judges and the officers of the crown. Should she refuse her signature, they are revised and remodified, or laid aside altogether.

The island is divided into seven districts, each of which has an inferior court for the trial of ordinary cases. This consists of two judges, who are not unfrequently also members of the legislature. The decision of these courts must be founded upon evidence, and appeal lies to the supreme tribunal.

This supreme court is composed of seven judges, two of whom are residents of the island of Eimeo. The judges are also executive officers, and nearly all are chiefs. This double capacity gives them great influence, and their power is sufficient to supply, in part, the queen's want of energy, but at the same time serves as a check against any encroachment upon the prerogatives of the sovereign.

The powers of this court even extend to an impeachment of the royal ruler.

The mode of trial, both of civil and criminal cases, is by a jury, and free argument is allowed. The testimony is not given upon oath, but the penalty for giving false evidence is severe. The jury is composed of six persons; and every one has the right of being tried by his peers.

The reigning queen is named Aimata, but is more usually known as Pomare IV. She is the sister of the late king, and granddaughter to that Pomare I. who acquired the sovereignty of Tahiti soon after its discovery. She is now (1839) about twenty-seven years of age, and has been twice married: the first time to Pomare, a young chief of Tahaa, from whom she was divorced; the second to a young chief of the island of Huaheine, by whom she has one son, the heir of the throne. The general appellation he goes by is Pomare *taue*, equivalent to king-consort.

Next in rank to the queen is her aunt, Ariapaca, the eldest sister of her mother, and at one time queen-regent. She still possesses great influence.

In case of failure of the queen's posterity, the next heirs to the throne are the princesses Ninito and Taii, who are the queen's cousins, and nieces to Pomare II.

Uata, the godfather of the queen, although not a chief by birth, has from this connection obtained great influence in the queen's councils, and may be termed prime minister.

The seven judges of the supreme tribunal are nominated by the queen, but the nomination must be confirmed by the legislature. Those who at present hold the office are all large landholders, and men of the highest character and intelligence to be found in the population. They are, in fact, the rulers of the kingdom. Five of them, viz. Paofai, Mare, Utami, Taati, and Tanoni, reside on the island of Tahiti; the other two, Ruetone and Mahine, at Eimeo.

In spite of the small extent of the kingdom, it is not without subjects to distract its councils. There are two distinct parties; the one led by the queen and the missionaries; the other by some of the chiefs. The leaders of the latter are Paofai, Hitoti, and Taua, who are descended from the ancient kings dethroned by Pomare I. These chiefs have large domains, and many of the raatiras (landholders) take part with them. They are, besides, distinguished by qualities which give them consideration among the islanders.

Paofai, who has more than once been spoken of, holds the office of chief judge, and is considered the best statesman on the island. Hitoti is distinguished for a dignity, uprightness, and good sense, which command universal respect. Taua possesses a high reputation as a brave and skilful warrior.

Of these three leaders, Hitoti alone is wholly free from reproach. Paofai is accused of covetousness, and a propensity to intrigue; and Taua of a fondness for intoxicating drinks.

The queen, however, contrives to rule in all matters that rightfully belong to her; and, by the aid of the missionaries, maintains her ground against the strong opposition, although its leaders have generally the power to determine the course of policy to be pursued, and entire authority over the execution of the laws. They are much opposed to foreigners, and have made several attempts to have them banished from the island. They are supposed to entertain the design of setting aside the queen, on account of her irregular behaviour and vices; but this plan is not likely to succeed, because of the personal popularity she enjoys, and the number of adherents she possesses among the people. In conformity with such a design, these chiefs are said to be continually watching for opportunities to increase their own power, and diminish the royal authority. Among the occasions of which they endeavoured to avail themselves, was the celebrated affair of the Roman Catholic priests, the circumstances of which, as nearly as I could learn from the statements of both parties, are as follows:

Two priests of this denomination, who had been stationed at the Manga Reva, or Gambier Group, landed on the southern side of the island, and travelled towards Papieti, preaching the doctrines of their church. They, however, found none willing to listen, and, it is said, that no native would receive them into his house. On their arrival at Papieti, however, Paofai, Hitoti, and some other chiefs, gave them countenance, and they were hospitably received by Mr. Morenhout, the acting American consul, who, however, did not lodge them under his own roof, but in an adjacent building. The people, however, excited by the preaching of the English missionaries, broke into the building, and compelled the priests to embark on board a small vessel, which carried them to Uea, or Wallis Island, about two thousand miles to the west of Tahiti.

In considering this question calmly, and stripping it of the exaggerations with which both parties have loaded it, it is difficult to say which was most in the wrong. The Protestant religion was established by law upon the island, to the exclusion of all others, and this the priests well knew; nor can any but zealots, who think that those whom they style heretics are worse than infidels, excuse their intrusion upon missionary ground, already fully and successfully occupied. On the other hand, their precipitate expulsion, under circumstances of great hardship, exhibited an unchristian spirit, for which the resident missionaries may justly be held responsible, as they unquestionably had it in their power to prevent any positive ill-treatment on the part of the natives.

The consequences of this expulsion of the priests remain to be

related. In due course of time the French frigate Venus, commanded by M. du Petit Thouars, arrived at the island, and anchored in the harbour of Papieti. The commander immediately demanded satisfaction for the outrage committed on his countrymen, the priests, and threatened that unless two thousand dollars were paid him within twenty-four hours, he would fire upon and burn the town of Papieti. The queen had no money, and was inclined, as I was told, to let the French do their worst. But as in this case the loss would have fallen wholly on the foreign residents, the required sum was collected from them by Mr. Pritchard, and paid to M. du Petit Thouars. A treaty was also forced upon the government, allowing all Frenchmen to visit the island freely, to erect churches, and to practise their religion. Thus the local laws were abrogated under the threats of an irresistible force, and the national independence virtually surrendered.

This was a high-handed measure on the part of the French commander, and one that hardly admits of justification, particularly the demand for money; for he had himself been received with great hospitality, and not long before, another of his sovereign's frigates—the Artemise, I think—had been saved from wreck by the unrecompensed exertions of the Tahitians. The amount demanded also was at least four times as great as the pecuniary damage incurred by the priests would be reasonably valued at. The French commander, therefore, appears, in thus bullying a defenceless people into the payment of an exorbitant indemnity, and into a relinquishment of the right of admitting or excluding foreigners and strange religious creeds, by municipal regulation, in a light far from advantageous.

We have seen that Paofai, and his party, at first countenanced the French priests. This they no doubt did in the hope of introducing an influence which might be opposed to that of the English missionaries. Subsequently to these transactions, and after an attempt by two foreigners to murder Mrs. Morenhout, they have endeavoured to obtain the passage of a law for the expulsion of all foreigners whatsoever.

The aversion to the permanent residence of foreigners is general; and although there is no law forbidding the sale of land to them, yet no offers have hitherto been found sufficient to induce the chiefs to dispose of any portion of their soil. They find in its possession an acknowledged right to rank and respectability, and it spontaneously yields them and their followers the means of subsistence. So powerful is this repugnance to the admission of foreigners to any of the privileges arising from a possession of land, that those who are attempting to cultivate sugar, &c., hold their leases by so uncertain a tenure as to prevent their making any permanent improvement.

The fertile portion of the island of Tahiti lies in the valleys, which are of small extent, and in the plain which extends from the seashore to the spurs of the mountains. These produce tropical plants in great abundance and luxuriance, and are probably not exceeded in fertility by any portion of the earth's surface. The climate of this region is warm, but not enervating, and is well adapted for the

enjoyment of all the pleasures of life. To this climate the habits and pursuits of the natives are well adapted, or rather, they are its necessary results. Their disposition leads them to the quiet enjoyment of the beautiful scenes around them. Their cottages are to be found in retired and lovely spots, and are usually surrounded by neatly-fenced enclosures. In these, which are often of considerable extent, are to be seen growing the bread-fruit, vi-apple, and orange, and sometimes extensive groves of tall cocoa-nut trees. In one corner are the patches of taro and sweet potatoes.

The cottages are of an oval form, usually about fifty or sixty feet in length, and twenty in breadth. The walls are formed of bamboos set in the ground, with intervals of about an inch between them, for the admission of light and air. To the top of these a plate-piece of the Hibiscus, a light and strong wood, is lashed with sinnet. From this the rafters rise on all sides, and meet in a ridge, which is about half the length of the building. The rafters touch each other, and are covered with small mats made of the Pandanus leaf. These are closely fitted together, and lapped over each other, forming an impervious and durable roof. The floor is the natural earth; there are no partitions, but tapa or matting is employed as an occasional screen. A building of this description may be erected for about fifty dollars.

The Tahitians use neither tables nor chairs. Their bedsteads are formed of a framework of cane, raised a short distance from the ground, upon which a few mats are laid. A pillow stuffed with aromatic herbs is in general use among the better class.

I hesitate to speak of the females of this island, for I differ from all who have gone before me in relation to their vaunted beauty. I did not see among them a single woman whom I could call handsome. They have, indeed, a soft sleepiness about the eyes, which may be fascinating to some; but I should rather ascribe the celebrity their charms have obtained among navigators, to their cheerfulness and gaiety. Their figures are bad, and the greater part of them are parrot-toed. They are exceedingly prone to prattling, or may rather be said to have a tattling disposition, for they cannot keep even their own secrets.

I have spoken of the incongruous character of the dress of the females. Among the men this is not as strongly marked as it is said formerly to have been, and they are no longer content with cast-off clothing. Those who can obtain it are dressed in sailors' garb; others wear around their bodies a wrapper called pareu, which extends to the calf of the leg. This is now usually made of blue cotton cloth, and with it some wear a cotton shirt of gaudy colours. Others luxuriate in a pair of duck trowsers, and carry the pareu upon their shoulders.

The appearance of the dress of the women while at church has already been spoken of. On ordinary occasions, they wear the pareu alone; but when dressed, put over it a loose dress, resembling a nightgown, buttoned at the wrists, and confined in no other place. Relics of their ancient dress may still occasionally be seen in wreaths of flowers around the head, and in the hair. The *hau* is a sort of rim made of Pandanus, and when it has flowers beneath, it gives a

pleasing and rural look to the women, to whom it affords a convenient and easily procured protection from the sun. The wreaths are usually composed of the Cape jasmine and Rosa sinensis, the latter of which is often stuck through the lobes of their ears, and in their glossy black hair.

The natives of both sexes seem passionately fond of flowers, but the use of these in dress has been discouraged by their teachers, who have taught them that such vanities are unbecoming to Christians. I am at a loss to understand why so innocent a pleasure should not have been encouraged rather than discountenanced. In conformity with this opinion, the absence of flowers around the missionaries' dwellings is universal, and cannot fail to be remarked in a climate where the plants most admired in their own country, as exotics, are of almost spontaneous growth.

Cooking and eating occupy but a small portion of their time. Their food consists principally of bread-fruit, taro, banana, vi-apple, (Spondias), oranges, cocoa-nuts, sugar-cane, fowls, and fish. They eat no salt, but employ instead of it a sort of sop, made of sea-water, cocoa-nut milk, and the root of the ti. Their mode of eating is somewhat disagreeable, for the bread-fruit or taro is dipped in the sop, and then sucked into the mouth with a smacking sound, that may be heard at some distance. The vessel most commonly used is a cocoa-nut shell. The children are fed upon poe, which is made of bread-fruit and taro, pounded together with a little sugar. The child is laid on its back, and is crammed with balls of poe of the size of a walnut, at which it shows its delight by flapping its arms, kicking, and chirping like a young bird.

The men of Tahiti care little about music, but the women appear to be passionately fond of it, and have very correct ears. Many of them have rich contralto voices, and can descend to very low notes, while others do not differ in this respect from the females of our own country; occasionally one may be found that can sound exceedingly clear and very high notes. Their voices accord well with each other, and a party of four or five will make excellent harmony.

If they ever had any native music, it has long been forgotten, and no other singing is now heard but hymns and sailors' songs; you observe, however, a peculiar nasal sound, particularly in those who indulge in the latter class of singing.

The party dispatched for the purpose of making an attempt to reach the top of Orohena consisted of fifteen persons, including four natives as guides, and an American of the name of Lewis Sacket, as interpreter. This man was from the State of New York, and was admirably qualified for his duties.

By the advice of the Rev. Mr. Wilson, the party took the route across the island which follows the Pappino valley. The distance on this line, to Lake Waiherea, is no more than twenty-five miles, while by that which follows the shores, it is fifty miles before the point at which the ascent begins is reached. None of the guides were acquainted with this route, and it was therefore necessary to find a person who was. For this purpose they in the first place proceeded towards the eastward from Matavai, for about five miles, to the mouth of the river Pappino, which they reached about 2 P.M. Here

they found a guide, and were informed that the stream was much swollen ; they however determined to go forward, and were accompanied by a troop of boys and girls with flowers. Before they had proceeded far, they reached a place where it was necessary to ford the stream, which they found difficult on account of the rapidity, although the water was only three feet deep. Other fords of the same description occurred every few rods, until they at last came to one in which the water reached their necks. This was of course dangerous to those who could not swim, but all crossed in safety. A young native, as if in derision of the difficulty which they appeared to experience, and of their effeminate bringing up, dashed into the flood, and was seen plunging down the rapids in sport, and evidently with great enjoyment, although frequently wholly immersed in the foam.

When they reached the edge of the lake, their guides constructed a hut, in which they passed the night. The next day Lieutenant Emmons made a survey of the lake, and sounded its depth from a raft. It was found to be half a mile in length, a third of a mile in breadth, and in shape nearly oval. The depth in the middle was ninety-six feet, whence it gradually decreases to the edge. It had rained the whole of the preceding night, and the lake was observed to rise about five feet in twenty hours. As far as could be discovered, it has no outlet ; but the natives assert that if a bread-fruit be thrown into the water, it will make its appearance at a spring, which gushes from the hillside, about two miles north of Ooaigarra, and near the sea. The height of the surface of the lake, measured by the sympiesometer, is about one thousand seven hundred feet above the level of the sea.

Most of the vessels that visit Tahiti are those belonging to our whaling fleet ; these average less than a hundred annually. From them the natives are enabled to dispose of some of the supplies they raise, and in return obtain such articles as will promote their comfort and add to their pleasure. The whale ships, for the most part, have articles of trade which they barter with the natives, so that little money is required to carry on their business. The natives, particularly the chiefs, are however well acquainted with the value of money.

The few other vessels that visit the islands bring little cargo ; if two arrive at the same time they destroy each other's ventures by glutting the market.

The pearl-shell fishery of the Paumotu Group centres here. I was told it was principally in the hands of the French consul. For a few years before our arrival, viz., from 1832 to 1838, it had been very productive. The amount obtained was about nine hundred tons, which was estimated to be valued at 45,000 to 50,000 dollars ; the greater part of this was sent to France. Of the agricultural products they have little to dispose of as yet ; neither is the island susceptible of any very extended operations, to induce vessels to visit it exclusively for its trade or productions. The three chief articles of production are sugar, cocoa-nut oil, and arrow-root.

BROOM ROAD, TAHITI.

CHAPTER XII.

TAHITI AND EIMEO.

The Porpoise sails for the Samoan or Navigator's Group—Application from "Jim" the Pilot—The Vincennes proceeds to Papieti—Interview with the Chiefs—General Freyre—Hitoti, a Native Chief—Geological Structure of Tahiti—Village and Bay of Papieti—Population of Tahiti—Diseases—Criminal Trial—Useful Plants—Ascent of Mount Aorai—Absence of Fossils on Tahitian Mountains—Manufactures of Tahiti—Theatricals by the Crew of the Peacock—Vincennes sails for Eimeo—Character of the Natives—Geological Features of Eimeo—Sugar Plantations—Conclusion.

THE Porpoise, having been refitted, was sent to sea on the 20th September, 1839, for the purpose of again visiting the west end of Nairsa, or Dean's Island, with Krusenstern's and Lazareff. She was also ordered to pass over the supposed locality of Recreation Island, and then to meet the Vincennes at Rose Island, the eastern-most of the Samoan or Navigator's Group.

A stormy evening having occurred previous to our leaving Matavai Bay, "Jim," the pilot, desired to see me; on his coming into the cabin, to my great amusement, he urged me to allow him to go to Papieti, where he was sure he would be wanted; and when I asked for what purpose, he told me that the "thunder and lightning would bring in ships of war." He was displeased when I laughed, and said, that as he was engaged on board my ship, I would wait until I saw the ships before I could give him permission. He then reminded me of the night before we arrived, when there was plenty of thunder and lightning, and that he told me as soon as he came on board that he expected us. He went on to repeat that he was sure that they would want him early in the morning at Papieti, but I persisted in my refusal: and in the morning he appeared much disconcerted to find that there was nothing in sight out of which he could make a ship of war.

The Vincennes moved to the harbour of Papieti on the 22nd September. At the same time orders were given to the Peacock and Flying-Fish to take on board their articles from Point Venus, and to follow as soon as they had done so. The tender required some repairs, which could be done with more safety at Papieti. Both vessels joined us in that harbour on the 24th.

The purpose of my visit to Papieti had originally been to go through the ceremony of receiving the great chiefs on board, when, according to custom, presents are made them; but before this was done, I determined that the business which I had laid before the council, as stated in the preceding chapter, should be adjusted.

This was done satisfactorily on the 22nd, when they assented to all that had been asked of them.

Agreeably to my invitation, Uata, who appeared as the representative of the queen, the two princesses, Ninito and Taii, and all the head chiefs, visited the ship, accompanied by the foreign consuls. The ship was dressed for the occasion with flags, and they were received with every mark of respect. Luncheon was prepared for them; and when they were all seated at it, it struck me that I had never seen such a collection of corpulent persons. Previous to eating, one of the oldest chiefs said grace. Their appetites were good; none of the food appeared to come amiss. They seemed heartily to enjoy themselves, and conducted themselves with a propriety that surprised us all. They were cautious in partaking of the wine which was set before them, and seemed evidently upon their good behaviour. This was the case with the high chiefs, who, to the number of about fifteen, had been invited; but, besides these, about an equal number of others contrived to get on board without invitation: the latter thrust themselves forward with eagerness to occupy places at the table, but were compelled to give place to those of higher rank. A second table was, however, prepared for them, at which they took their seats, and did ample justice to what was set before them.

The variety of costume which was exhibited at this banquet was amusing. The princesses were dressed in white frocks, shoes, and stockings, and chip bonnets, but looked awkwardly in them, and appeared more like boys in girls' clothes than women. Some of the men wore full suits—coat, vests, and pantaloons—of a variety of colours; others had sailors' round jackets; others again had only shirts and pantaloons, all too small, both in breadth and length. Some had black felt hats, of all possible fashions, and others wore them of straw; some had shoes on their feet, others had none.

Paofai's son attracted attention by his ridiculous appearance: he wore a red check shirt, light white pantaloons, that reached only half way down his legs, coarse shoes without stockings, and a short-skirted drummer's coat of blue, plentifully faced with scarlet. The latter was so small for him, that no force could make it button upon him. To finish all, he had a high-crowned, conical felt hat stuck upon the top of his head.

After luncheon, they repaired to the deck, to receive the presents prepared for them. These I had been advised, in order to avoid unpleasant scenes, to pack in bundles, assorted to the rank of the parties.

In spite of this precaution, much consultation took place among them, and a desire to exchange with one another was manifested. This was particularly the case with our old acquaintance Taua, and his friend Otore, the ex-minister and former favourite of the queen. The presents for the queen and royal family were committed to the charge of Uata, who, as has been stated, appeared as the representative of her majesty.

Otore, who has been just named, is only a petty chief, but had been the queen's favourite and minister, until he was dismissed in

consequence of his frequent indulgence in intoxication. He is considered as the greatest orator on the island. He and Taua are boon companions, and were continually on board the vessels, where they so timed their visits that the hour of breakfast was sure to find them either actually seated at table or awaiting an invitation. Although at first welcome, the habitual intrusion of these and others upon the messes, finally became an annoyance, and on board the Peacock they had at last recourse to "clearing the ship of strangers" during meals. Taua did not mind this: and when we left Matavai, he was so kind as to remove to Papieti, in order to be near his friends.

Among other visitors on this occasion, I had the honour of the company of General Freyre, formerly president of Chili, who has chosen Tahiti as his residence.

He lives in a small cottage on the bank of the harbour at Papieti, where he is highly respected; his manner and whole deportment are gentlemanly; he is tall and robust, with a florid complexion, and appears about fifty-five years of age.

On arriving at Tahiti, or indeed at any of the islands, respect is naturally due to the chiefs; this, I am assured, was felt by us all; but long before sailing, we became disgusted with seeing these large and noble-looking men passing from ship to ship, even including Paofai himself, soliciting foul linen to wash, and performing other services that were not in keeping with their rank. There is one, however, whom I must do justice to—Hitoti. I was much pleased with his whole deportment on his visit to me, and also when I saw him at his own house; he paid but two visits to the ship, and those within a day or two of our departure. That he did not visit the vessels before, was in order, as was supposed, to avoid the suspicion of trespassing on our liberality; he refused to accept any presents, and would only drink wine when requested, performing all the little courtesies of the table with grace and politeness.

The geological structure of the island is exclusively volcanic, and the rocks are either compact basalts, or conglomerates of basalt and tufa, although no active volcano exists, nor any well-defined crater, unless Lake Waiherea can be considered as one. Through these rocks olivine and pyroxene are copiously disseminated; cellular lava was found in some places, but neither pumice nor obsidian; quartz and mica were not observed, nor any carbonate of lime, except in the form of coral rock.

There is no conformity between the rocks of the centre of the island and those which in most places extend inwards for a few miles from the coast. The former are usually compact, of columnar structure, and exhibit no appearance of horizontal stratification; the latter lie in horizontal layers, composed of scoriaceous and vesicular lava. In both of these structures singular twistings and contortions were observed. Many dykes were seen to occur, not only in the mountains, but near the sea-coast; these were from three to six feet in width.

All the rocks of the island appear to be undergoing rapid decomposition. Even in places where the rock seemed to have retained

its original form of sharp edges and pointed pinnacles, it was found so soft, to the depth of a foot or more, as to crumble in the hand. The earth thus formed varies in colour from that of Indian red to a light ochrey tint; in consequence, many of the hills are of a red hue, and one immediately behind Papieti takes its name (Red Hill) from this appearance.

This decomposed earthy matter, mixed with the abundant decayed vegetation of a tropical climate, forms, as may be readily imagined, a soil of the greatest fertility, adapted to every kind of cultivation. On the higher grounds the soil thus constituted has the character of a clay, and is in wet weather slippery and unctuous; in lower positions it is mixed with lime derived from coral and shells, which often tends to augment its fertility.

Iron abounds throughout; on the mountains and on the shore.

Water gushes out near the coast in copious springs, but none of them were found hot, nor were any warm springs reported to exist.

Papieti, in whose harbour we were now lying, is one of the largest villages on the island; being the ordinary residence of the queen, and the abode of the foreign consuls. The foreign residents are also for the most part collected here. Among all its dwellings, the royal residence and the house of Mr. Pritchard are the only ones which possess the luxury of glazed windows. The houses of the foreigners are scattered along the beach, or built immediately behind it.

A census recently taken, gives for the population of Tahiti nine thousand, and for that of Eimeo one thousand. When this is compared with the estimates of the navigators who first visited these islands, an enormous decrease would appear to have taken place. The first estimates were, however, based on erroneous data, and were unquestionably far too high; yet there is no doubt that the population has fallen off considerably in the interval. The decrease may be ascribed in part to the remains of the old custom of infanticide; in part to new diseases introduced from abroad, and the evils entailed upon them by foreigners; and in part to the transition now going on from a savage to a civilised life.

Whatever may have been the case during the first years after it was visited by Europeans, the population for the last thirty years has been nearly stationary; the births and deaths are now almost exactly in equal numbers.

Tahiti does not appear to be afflicted by many diseases. Some have been introduced by foreign ships, and, among others, the venereal, from which the natives suffer much, being in possession of no method of arresting its ravages, and ignorant of the proper mode of treating it.

The effects of intoxication from ardent spirits and ava are said to have swept off many of the inhabitants. Secondary syphilis is in some cases severe, but their usual vegetable diet and simple mode of living, together with frequent ablutions, tend to mitigate this disease. Its continued prevalence, as well as the severity of some of the cases, are ascribable to the inordinate use of mercury.

While lying at Papieti, we had an opportunity of seeing the

manner in which justice is administered in criminal cases. The court was held in the council-house, an oblong building in the native style. The alleged crime was assault with intention of rape. The judges were seated on mats, having Paofai, their chief, a little in front of the rest; and the audience sat or stood around. The culprit was a petty chief, called Ta-ma-hau, a man of huge size, and apparently somewhat of a bully; he stood during the trial leaning against one end of the house, with an air of cool indifference. His accuser was a damsel not remarkable for personal beauty; she sat near the door, among a number of other women. The witnesses were patiently heard, and the matter argued, after which the six judges severally gave their opinions, and made remarks on the evidence, to which Paofai listened in an attentive and dignified manner, expressing, as occasion demanded, his assent or dissent. He then pronounced the verdict of the court, by which the prisoner was acquitted, but did not dismiss him without a brief and merited castigation. It appeared, that although not guilty of the crime alleged, he had, while intoxicated, addressed indecent language to his accuser.

The bread-fruit tree is said to have decreased, and this is no doubt the case; the seeds are said to be often abortive at Tahiti, for which reason the cultivation in this way has been neglected of late, and the plants raised in other modes have become less productive in consequence; its timber is used for many purposes; the fruit was not in season while we were at Tahiti.

Wild sugar-cane was found in the interior, commonly growing in tufts, but so small in size that it was with difficulty recognised; the cultivated kind is derived from this, and is also of small size.

The fruits we met with were oranges, lemons, limes, shaddocks, pine-apples, papayas, bananas, figs, vi-apples, fahies, cocoa-nuts, and bread-fruit; the six first mentioned have been introduced since Cook's time.

The vegetables are sweet potatoes (Convolvulus), yams of small size, taro (Caladium esculentum), the ape (Caladium macrorhizon), turnips, onions, and leeks; but there were no common potatoes cultivated. I gave Mr. Wilson some of the yellow Peruvian potato (Papas amarillas), but he informed me that all their attempts to raise potatoes in the low ground had failed.

The tacca, from which arrow-root is manufactured, grows in quantities, but we did not see it cultivated.

In the botanical researches it was remarkable that not a single stem of paper mulberry (Broussonetia) was found, although former visitors speak of it as the tree from which their cloth was made.

There are a vast variety of ornamental shrubs, and many aromatic plants, which the natives use to perfume their cocoa-nut oil.

The tutui tree (Aleurites triloba), the nut of which is used in tattooing, is very common all over the island.

Tobacco is grown in small quantities.

Grapes succeed well on the south-east side of the island.

The price of labour is from two to four dollars a month, but for occasional labour fifty cents a day is usually paid.

Wild hogs are said to be numerous in the mountain region; none of our parties, however, met any. Horses are possessed by many persons on the island, and goats were seen. Dogs and cats were abundant. The island is well supplied with cattle; they are suffered to run wild, and frequent the neighbourhood of the hills, whither they are obliged to go for pasturage, which is now very scarce on the island, on account of the thick growth of the guava.

After the departure of the Vincennes, a party from the Peacock, consisting of Mr. Dana and some others, obtained leave of absence from Captain Hudson for five days, with the design of ascending Mount Aorai. They commenced the ascent immediately in the rear of Papieti, and by noon on the second day had reached an elevation of five thousand feet, where they stood upon a platform about twelve feet square; thence they looked down eastward two thousand feet into the Matavai valley; to the westward, they had a gorge about a thousand feet deep running into Toanoa valley; to the south, the platform on which they stood was united by a narrow ridge with Mount Aorai, which was apparently only a short distance before them. In this place they were compelled to pass the night by a fog which enveloped them, through which the guides were unwilling to lead them, refusing to proceed further along the dangerous path until the clouds should clear away.

The next morning was clear, and they pursued their ascending route along the edge of a ridge not more than two or three feet in width, having on each side an abyss two thousand feet deep. Seen from this ridge, looking south, Mount Aorai seemed a conical peak; but as it was approached, it proved to be a mountain wall, whose edge was turned towards them. The only ascent was by a similar narrow path between precipices, and surpassed in steepness those they had already passed. The width of the crest seldom exceeded two feet; and in some cases they sat upon it as if on horseback, or were compelled to creep along it upon their hands and knees, clinging to the bushes. At last they reached the summit, where they found barely room to turn round. The ridge continued for only a short distance beyond them, being then cut across by the Punaania valley.

From the summit of Aorai, they had a magnificent view; to the south, it was speedily bounded by the peaks of Orohena and Pitohiti, whose steep sides rose from the valley beneath them; to the east, they had the rapid succession of ridge and gorge which characterises Tahitian scenery; to the west, over a similar series of jagged ridges, Eimeo and Tetuaroa stood out from the horizon of the sea in bold relief; to the north, they looked down upon the plain, studded with groves of cocoa-nut and orange; and upon the harbour, with its shipping, and the encircling reefs of coral.

A short distance below the summit of Mount Aorai, a mass of turrets and pinnacles, which, from its singular outline, is called the Crown, runs along the top of a narrow ledge.

Except the plain of the coast, no level land is in sight but the valley of Punaania; this is divided from that of Matavai by a ridge of the usual edge-like form, running upward towards Orohena.

Very few of the natives who are now alive have been on the summit of Aorai; their paths in this direction, as in other places, do not lead beyond the limit of the groves of wild banana (fahie). Beyond the height at which these cease to grow, the ground is chiefly covered with a wiry grass (Gleichenia), which springs up in many places to the height of ten feet, and is everywhere almost impenetrable. When this was not too high, they broke it down by casting their bodies at full length upon it; and when of larger growth, they had recourse to cutting away or breaking its stiff and crowded stems, until they had formed a way beneath it, whence the light was almost excluded.

The want of water, which, after a few days of dry weather, is seldom found even in the elevated valleys, was an additional discomfort. It is to be recommended to future travellers in the mountains of Tahiti to make provision against this inconvenience. The party was so much distressed from this cause as to enjoy the dew upon the leaves as a luxury.

Mr. Dana reported, that the visit to Aorai conclusively settled one questionable point in the geology of the island. He found upon its summit neither corals nor "screw-shells," which vague rumours have long located on the top of the Tahitian mountains. Every one who has visited this island has probably heard that such formations existed in these lofty positions; but the report rests wholly on native authority. Moera, the guide who accompanied the party, and who resides near One Tree Hill, insisted that he had seen both, and promised to show them. On reaching the summit, he began digging, and the rest of the party aided him. He soon brought up what he called coral, but which proved to be a greyish trachytic rock; and although he continued to dig for some time longer, he could find nothing which he could venture to exhibit as screw-shells.

In their descent from Mount Aorai, they followed the western side of the valley of Papoa, along a narrow ledge, similar to that by which they had ascended. After proceeding for two hours, they reached a small plain, which speedily narrowed to a mere edge of naked rock, with a steep inclination; this they were compelled to traverse on their hands and knees, taking the greatest care to avoid detaching the rock, which, in many places, overhung a precipice; next followed a perpendicular descent of about twenty-five feet, down which they let themselves by ropes; this difficulty overcome, the rest of the route presented no dangerous features, and was performed in safety.

The manufactures of Tahiti are of little amount. Among them is that of arrow-root from the Tacca pinnatifida, which employs a portion of the population. Cocoa-nut oil is also made, and preserved for use in pieces of bamboo, cut off at the joints, when the natural diaphragms form a bottom, and the piece is thus a convenient bucket. This oil is often scented with aromatic herbs, to be employed by the natives in anointing the hair and body; it is also used for burning in lamps, and is exported in considerable quantities. The lamps, which are always kept burning in their

houses at night, are made of the shell of a cocoa-nut. The wick is formed of wild cotton, and is kept upright in the centre of the bowl by two elastic strips of cocoa-nut leaf crossing each other at right angles.

Sugar is beginning to attract attention, and some attempts have also been made in the culture and preparation of indigo.

Making straw or chip hats is a favourite occupation among the women, whose former employment was the making of tapa.

The repairs of the Flying-Fish were not completed before the 10th of October, up to which time the Peacock was detained, not only in order that they might sail in company, but because her officers were still engaged in the survey of the harbours. In the interval of leisure which was thus afforded them, the crew of the Peacock asked, and obtained permission to get up a theatrical entertainment for the amusement of the natives and themselves. The council-house was placed at their disposal for the purpose, by the native authorities. The play chosen was Schiller's "Robbers," the parts of which had been rehearsed at sea, in the afternoons—a task which had been the source of much amusement. An opportunity was now presented of getting it up well: the dresses having been prepared, the day was appointed, and when it arrived the piece was performed; the acting was thought by the officers very tolerable, and finally gave great delight to the natives. The latter, however, were somewhat disappointed in the early parts of the performance, for they had expected an exhibition of juggling, such as had been given for their entertainment on board of a French frigate. While under this feeling they were heard to say there was too much "parau" (talk). After they began to enter into the spirit of the performance, the murders took their fancy; and they were diverted with the male representatives of the female characters.

A number of comic songs, which formed the relief of the more serious play, were exceedingly applauded; among others, they laughed heartily at "Jim Crow," sung in character.

On the 25th of September the Vincennes sailed from the Port of Papieti for the island of Eimeo.

On landing, we were soon surrounded by nearly all the natives in the place, male and female, old and young, who followed us with expressions of wonder; their conduct reminded me of the manner in which an Indian chief is run after in the streets of our American cities. In spite of their excitement they were all extremely civil.

The missionaries are now aware that their proper plan is to devote their time and attention to the young; and in pursuance of this object Mr. and Mrs. Howe have lately arrived from England, for the purpose of establishing an infant school.

The natives of Eimeo have an advantage over those of Tahiti, in being free from the influence of evil example; many of them are industrious, and possess a proper feeling of the benefits they have derived from the missionaries, of whom they speak, whenever questioned, as friends.

Three of our crew having become enamoured of these islands, deserted while the Vincennes lay at Eimeo. They left the ship

about ten o'clock at night, soon after which their absence was discovered, and parties sent out in every direction to intersect the roads, and drive them to the hills. This was effected by the following morning, and a large party of natives was employed to hunt them up. This task they speedily performed, and at last drove the deserters to one of the highest ridges, in full view of the ship. Here the runaways appeared at first disposed to make fight with stones; but when they saw the odds against them, and witnessed the alertness of the natives in leaping from cliff to cliff, they thought it best to give themselves up; which they did, to three natives, naked except the maro, and armed respectively with a rusty sword, an old cutlass, and a piece of iron hoop. These bound their hands, and led them down to the shore, whence they were brought on board, where the three natives received the reward offered for their apprehension. The chase and capture was an amusing sight to those who watched the proceedings from the ship.

Eimeo has, if possible, a more broken surface than Tahiti, and is more thrown up into separate peaks; its scenery is wild, even in comparison with that of Tahiti, and particularly upon the shores, where the mountains rise precipitously from the water, to the height of twenty-five hundred feet. The reef which surrounds the island is similar to that of Tahiti, and, as we have seen to be the case there, no soundings are found on the outside of it. Black cellular lava abounds, and holes are found in its shattered ridges, among which is the noted one through which the god Oroo is said to have thrown his spear.

The alluvial plain at the head of the harbour of Taloo is partly occupied by plantations of sugar. The cane is of superior quality, and the climate well adapted to its production; the plant is indeed indigenous, and it is well known that the variety of it found at Tahiti has been introduced advantageously into the West Indies.

Coffee, cotton, and all other tropical plants, succeed well at Eimeo, and the quantity of tapa manufactured is greater in proportion than at Tahiti.

On leaving Eimeo, I bade adieu to the Tahitian islands; but I cannot close the portion of the narrative which is devoted to them, without again expressing the pleasure I and all my officers derived from our intercourse with the missionaries, and our obligations for the kindness received from them and other residents.

CHAPTER XIII.

SAMOAN GROUP—ROSE ISLAND—TUTUILA.

Departure of the Vincennes from Eimeo—Bellinghausen's Island—Rose Island—Manua—Its Description—Canoes of Manua—Oloosinga—Its Description—House of the King—His Entertainment—Return to the Ship—Coral Reef of Oloosinga—Ofoo—Appearance of Tutuila—Harbour of Pago-Pago—Toa, a Native Chief—Geological Structure of Tutuila—Appearance and Character of its Inhabitants—La Perouse's Expedition—Visit to Toa—His Feast—Bathing—Mode of Living—Employments and Amusements—Mr. Murray, the Missionary—Customs of the Natives—Public Worship—The Peacock and Flying-Fish sail for Upolu—Climate—Visit to Heathen Villages.

ON the 29th of September, 1839, at daylight, we got under way from Eimeo, and made sail to the westward, passing the Society Island Group, viz. Sir Charles Saunders' Isle, Huaheine, Tahaa, Borabora, Maufili, and Moutoiti. All of these, with the exception of the last, are high lands.

On the 30th we made Bellinghausen's Island, which is a low coral island, similar to those which have been already described. It was uninhabited, and is of a triangular form.

Birds were in great plenty, and as tame as we had found them at other uninhabited islands we had visited. No lizards or rats were observed, nor was the common fly seen.

In the afternoon we again made sail to the westward. On the 6th of October we passed near the locality of the Royal George Shoal, but saw nothing of it.

On the 7th, which was the day appointed for our rendezvous off Rose Island, we came in sight of it, and at the same time descried the Porpoise. That vessel had passed by Nairsa or Dean's Island, and connected the survey of it with that of Krusenstern's and Lazareff. They are uninhabited, though occasionally visited by the natives of Nairsa Island. The position of Recreation Island was passed over, but no signs of land discovered.

Rose Island, the most eastern of the Samoan Group, was discovered by Freycinet, who gave it its name. It appears, at first, like a round knoll of land, but, on a nearer approach, this is found to arise from a large clump of Pisonia trees, similar to those found growing in the low archipelago. It is a low annular coral island, of small dimensions, inundated at high water, with the exception of two small banks, one of which is entirely covered by the clump of trees. The other is formed of dead coral, without any vegetation. A remarkable coral formation, like a submerged tree, thirty feet in diameter over its top, was found in the centre of the lagoon, rising

to the level of low water, and having all around it a depth of six fathoms.

Some boulders of vesicular lava were seen on the coral reef; they were from twenty to two hundred pounds' weight, and were found among blocks of coral conglomerate.

Birds were seen flying over the island, and on landing we found them in great numbers, and very tame. The frigate-birds and boobies (sula), whose nests had before been observed on low bushes, were here found on the tops of trees fifty feet high. The noddies laid their eggs on the parts of the island destitute of vegetation. Tern were in great numbers; their breeding-place was in a thicket on the weather-side of the island, or that which was exposed to the wind and sea, and was remarkable from the regularity with which the eggs were placed, about three feet apart, without any nest, and, with but few exceptions out of many thousands, each egg lay separately. The colour of the eggs is a dirty white, mottled with brown.

On the 7th we left Rose Island, and at sunrise made the island of Manua, which is two thousand five hundred feet above the level of the sea. It has the form of a regular dome, rising in most places precipitously from the water to the height of three or four hundred feet, after which its ascent appears more gentle and even. It is sixteen miles in circumference, is well covered with a luxuriant vegetation, and has many cocoa-nut groves on its north-west side.

On approaching it Oloosinga was in sight, and shortly after Ofoo. These two islands lie to the north-westward, at the distance of about four miles.

This island is inhabited. The principal settlement is on the north-west side.

The canoes of these islanders were the best we had seen. They are built of a log, having upon it pieces fastened together, to raise them sufficiently high. They are thirty or forty feet long, and are partly covered in at both ends. Some of them are capable of containing twenty or twenty-five men, and are very swift. The chief usually sits cross-legged on the forward platform or deck. They have an outrigger, which is not so far removed from the canoe, and renders them more liable to be upset.

The king or chief of these islands resides at Oloosinga, in consequence of its being more easily defended.

After our party reached the ship, we made sail for Oloosinga, where I went on shore to see the king or chief, who was old and decrepit. His name is Lalelah. His brother, and presumptive successor, was with him, and met me as I landed from the boat. His mode of salutation was by taking my hand, and rubbing the back of it against his nose.

He led the way to his hut, situated under a mural precipice twelve hundred feet in height.

The island of Oloosinga is a narrow ledge of rocks, rising nearly perpendicular on both sides, and is three miles in length. So precipitous is it at its ends, that it is impossible to pass around it on

the rocks. The strip of land is about five hundred yards in width, on which bread-fruits and cocoa-nuts grow in great profusion and sufficient abundance for all the wants of the natives. They told me that this island had been chosen as a place of safety, since the other became unsettled in consequence of the wars of the Christian and Devil's parties.

The house of the king was elliptical in form, and thirty feet long, erected on a well-flagged terrace of stone, about four feet above the ground. It was well shaded with cocoa-nut and bread-fruit trees, and was supported around by ten stout posts, with three others in the centre reaching the top. The roof came down within three and a-half feet of the ground, and projected as eaves, about eighteen inches or two feet. In the centre the hut was fifteen feet high, and well thatched.

The whole floor was ordered to be spread with fine mats, which were carefully unrolled, and laid over the coarser ones on the floor. The king then seated himself in the centre, and desired me to take a seat between himself and brother. Shortly afterwards, two large wooden trays were brought in, filled with cooked bread-fruit, and covered over with leaves. One of these was placed before me, when the king made a long speech, giving me welcome and offering food to eat. I was then desired to hand some to the king and his brother, and to others who were pointed out to me. This I did, but unfortunately continued my task, and handed it to one of the Kanakas, or common-people, who were sitting close around us; much displeasure was evinced, accompanied with angry looks. I now looked around for my men, but they were out of sight, on their return to the boat. In order to make the best of my situation, I asked what was meant, and feigned to be quite ignorant of having given any offence. After a minute they were apparently appeased, and pleasant looks were restored.

They handed round a shell, containing cocoa-nut oil, to dip the bread-fruit in, and another containing salt water. After we had eaten, they began a careful examination of my clothes, and appeared much pleased with the buttons. My pocket-handkerchief was taken out of my pocket, and spread on the mat to be examined by the king. His brother took off my hat and put it on the top of his large, bushy head. They then had ava made, of which I could not partake, after seeing the process of making it. It is first chewed by the women and thrown into a large bowl; water is added to it, and it is then strained through leaves. This was partaken of by them all, while they gave me a fresh cocoa-nut.

They were becoming more familiar every moment, and it was getting late, so I thought it time to make a move. I therefore rose up, and was followed by the natives, in number upwards of a hundred, including the king and his brother, to the boat. I looked carefully around for arms, but saw none among them. My boat was aground: the king, his brother, and several others got into it, saying they must have some presents. They seemed disposed to resist, and showed a determination to contest our getting off. I, on the other hand, was determined to get rid of them, and peaceably

if I could; I therefore ordered the boats crew to arm themselves, and drive every one of the natives from the boat, at the same time intimating to the king to use his authority, which I found, however, existed only in name. We thus succeeded in getting clear of the crowd, until we had no more than eight left; to each of these I presented a small fish-hook, and ordered them to get into the water, which was about a foot deep, and go; this they did, one by one. At last came the king and his brother's turn, to whom I presented, with great ceremony, first a small and then a large fish-hook; after which they left me, apparently in good humour. I was heartily glad to be rid of such rapacious, troublesome fellows so easily, and without a fight. We then pushed our boat off. When just beyond the reef, in taking up our anchor, the boat had the appearance of returning again on shore. On seeing this, a great shout was set up by the natives, and one of them immediately advanced with my powder-flask. He said it had been taken by a boy out of the boat, and had been dropped into the water, to be picked up after we had shoved off. I gave the man a small present for his apparent honesty; but I am inclined to believe it was the fear of detection, and the belief that we had missed the article and were returning for it, that induced him to give it up so willingly. It was some time before he could be made to understand what the reward was for, but when he found it was for his honesty, he laughed heartily.

This having excited our suspicions, the boat's crew informed me that a canoe that was paddling off had been alongside of the gig, and that they felt satisfied that the natives had taken something from us. It being in our course towards the ship, we gave chase, and being favoured by the wind, soon overtook the canoe, to the great fright of the two natives, who were paddling with all their might, and whose eyes were full of tears when overtaken. They had nothing at all in their canoe, and after examination it proved we had lost nothing. To console them for this alarm, I gave them a few trifles, and they became easy and cheerful.

The coral reef around this island was different from any I had hitherto seen. It consisted of two regular shelves, the outer one from fifty to sixty feet wide, and the inner in places measuring one hundred and forty feet. A distinct mark of high water was measured along the beach, and found to be twenty feet above the ordinary sea-tide, which has from four to five feet rise.

Ofoo lies to the westward of Oloosinga. There is a passage for boats of about a fourth of a mile in width between them, and anchorage on the western side. Ofoo resembles Oloosinga; and, from the accounts we received, it has but few inhabitants; those of Oloosinga having made war upon them, and killed the "natives" off. There is a small and comparatively low islet off its western end, near which there is an anchorage. After sunset we bore away for Tutuila, which can be seen in fine weather from these islands.

At daylight on the 11th we were near the eastern end of Tutuila, and off the island of Anuu.

The island of Tutuila is high, broken, and of volcanic appearance. It is seventeen miles long, and its greatest width is five miles. The

harbour of Pago-Pago penetrates into the centre, and almost divides the island into two parts. It is less varied in surface than the Society Islands, and its highest peak, that of Matafoa, was found to be 2327 feet above the sea. The spurs and ridges that form the high land are like those of Tahiti, precipitous, sharp-edged, and frequently rise in mural walls from the water to a height of three or four hundred feet, showing the bare basaltic rock. Above this height the surface is covered with a luxuriant vegetation to the very top of the mountains; the cocoa-nut tree and tree-fern give the principal character to this beautiful scenery. Dead coral is seen along the shores, above high-water mark.

The harbour of Pago-Pago is one of the most singular in all the Polynesian isles. It is the last point at which one would look for a place of shelter: the coast near it is peculiarly rugged, and has no appearance of indentations, and the entrance being narrow, is not easily observed. Its shape has been compared to a variety of articles: that which it most nearly resembles is a retort. It is surrounded on all sides by inaccessible mural precipices, from eight hundred to one thousand feet in height. The lower parts of these rocks are bare, but they are clothed above with luxuriant vegetation. So impassable did the rocky barrier appear in all but two places, that the harbour was likened to the valley of Rasselas changed into a lake. The two breaks in the precipice are at the head of the harbour and at the Pilot's Cove. The harbour is of easy access, and its entrance, which is about a third of a mile in width, is marked by the Tower Rock and Devil's Point.

We were surrounded, as soon as we entered, by a large number of canoes, filled with natives, who all seemed delighted with the ship and the number of men on board. When we had moored, one of the principal chiefs, whose name was Toa, was admitted on board: he was an athletic, muscular man, of large frame, about forty years of age, with a pleasant expression of countenance; he manifested great pleasure in welcoming us. He began by telling me, through the interpreter, that he was a missionary; that he had formerly been a great thief, and a doer of many bad acts, but being now a missionary, he was reformed and stole no more. He told this with such an open expression of countenance and so much simplicity that I could scarcely forbear smiling. After I had finished asking him questions, he continued eyeing me from head to foot, as if determining my dimensions. I told the interpreter to ask him why he looked at me so intently. He replied, that he had a coat on shore that was too tight for him about the arms and chest, and he believed it would fit me: if so, he should be glad to exchange it for the jacket I had on. Not being inclined to this exchange, I ordered a small hatchet to be given him. This gratified him much, and he instantly went over the ship's side to show it to his friends. This same Toa is chief of the village of Fungasar, about three miles distant from the harbour, on the north side of the island. He learns to read and write, being taught by some of the small children, and attends school regularly. He became of great use to us, and was a constant visitor. During one of his visits on board, he espied some red umbrellas among the

presents, and from that time was continually endeavouring to obtain one for his wife, and brought many articles in the hope of inducing us to part with it in exchange for them.

The geological character of this island is similar to that of Manua; it has only a shore-reef of coral, and soundings extend some distance from it. It has many desirable ports or bays on its north side, where vessels may obtain wood, water, and supplies. The best and safest port, however, is that of Pago-Pago, on its south side, which affords a safe harbour for vessels to overhaul, and where supplies may be had in abundance.

Tutuila is thickly settled round its shores, and particularly at its south-western end: this is lower and more easily cultivated than the eastern, which is high and rugged. The only communication is by the sea-shore, the hills being too precipitous and difficult of ascent to pass over.

The men of Tutuila are a remarkably tall, fine-looking set, with intelligent and pleasing countenances. In comparison with the Tahitians, they would be called sedate.

The women are far from being good-looking, with the exception of some of the younger ones. They are remarkably domestic and virtuous, exhibiting a strange contrast to those of Tahiti. Here there is no indiscriminate intercourse, the marriage tie is respected, and parents are extremely fond of their offspring. The inhabitants are disposed to be hospitable to strangers, although they expect remuneration for it. Travelling is generally believed to be safe throughout the island of Tutuila; and the natives, as far as our experience goes, are not the blood-thirsty race they have been reported to be. The unfavourable estimate of their character has, I presume, been derived from those who first knew them, and particularly from their attack upon the expedition of La Perouse. Of this conflict I obtained the following particulars from the Rev. Mr. Murray, who had them from an old man, who was a witness of the affray. The latter is the only individual now alive in the settlement who was present when it occurred, and his testimony was corroborated by others who had heard of it from those who witnessed the scene.

On the morning of the massacre, the vessels stood in towards the land. About noon the boats went ashore, as recorded by La Perouse, and while on shore, a number of canoes, belonging to the island of Upolu (to which Tutuila was at the time subject), went from the shore, and proceeded directly to the vessels. When these canoes were alongside, a young man in one of them laid his hand on an iron bolt in some part of the ship, with the intention, it is supposed, of stealing it. He was fired upon by the French. The ball passed through his shoulders, and mortally wounded him. The natives, on seeing the effect of the shot on one of their number, were greatly enraged, and immediately left the vessels, and hastened to the shore, where they found the boats that had gone to get water. On reaching them, they began the attack, which resulted in the massacre of M. De Langle, and of those who were with him on the shore. When the natives began this attack, the great body of the French were absent from the boats; some were in the bushes gathering plants,

and others talking to the females. On the commencement of the disturbance, they all rushed towards their boats, and the confusion became general. The minute circumstances of the affray, further than the above, cannot now be ascertained from the natives. They are however, very clear in reference to the cause, and those who were the actors in it, viz: the natives of Upolu. The Tutuilians maintain that they endeavoured to save the lives of the French; and on the following day, as soon as they dared to venture from the mountains, whither they had fled during the massacre, they collected the bodies, which they found in a state of nudity, dressed them in native cloth, and buried them in the beach, as they were accustomed to bury their own chiefs. The actors in the massacre proceeded at once to Upolu, which will account for their afterwards having been seen there, and recognised by the French. Our inquiries relative to the spot where they had buried the bodies were not satisfactorily answered. How the carpenter's son escaped is not known. He is said to be still living at a village on the eastern part of the island. There appears to be mention made of a boy among the missing, in La Perouse's account. Levasii, a chief of the district of Faleletai, was at the massacre of the party of La Perouse. He was then a boy of thirteen years of age. He remembered the occurrence, and that three of the Papalangi were killed.

The perpetrators of the deed were some young chiefs from the district, who were on a "malanga" to Tutuila. At that time, Aana district had the rule, or was the "Malo" party, and domineered over the inhabitants of the other islands and districts.

On the 17th, our friend Toa gave us an invitation to visit him at his town of Fungasar, on the north side of the island. It is situated on the next bay to that now called Massacre Bay, where De Langle was killed. The path across the island is a very difficult one to travel; it leads up through the valley, and across the dividing ridge, which is quite precipitous. The rain which had fallen made it very slippery, and the journey was fatiguing to those not accustomed to this kind of walking.

I was much struck here with the manliness and intelligence of the natives, and with their frank, open expression of countenance. The colour of their complexion is rather darker than that of the natives of Tahiti. The outlines of face and figure are very like those we had left, their hair and eyes black, and their teeth good and white. Some of them had frizzled hair, but it was generally straight.

Just before arriving at the village, we were met by Toa, and some of his relations and attendants, who welcomed us to his village, saluting me by rubbing his nose with my hand.

He ordered a pig, taro, bread-fruit, &c. &c., for our entertainment. These were cooked in the universal Polynesian mode, by being covered up in a hole with hot stones. We were soon told that the feast was ready, but having had some experience of their cooking, we desired it might remain in the oven a little while longer. Their usual custom is to take it out the moment that the taro is cooked; and from daily practice, they are well acquainted

with the time required to cook it. This is scarcely sufficient to give the pig time to be warmed through. Our request prevailed, and in the course of half an hour we were summoned to the council-house or fale-tele, where strangers are always entertained. We were shown our seats, on one side of a circle, while Toa, with his family and friends, occupied the other. The mats, except one, were not very clean. The pig, which must have weighed one hundred pounds, was brought in, and laid with the taro and bread-fruit on banana-leaves. A butcher's knife was all that we possessed to carve it with. The whole village, old and young, men, women, and children, who were waiting in anxious expectation for their share, now surrounded us, and made it uncomfortable to eat, with so many hungry expectants; I made haste, therefore, to divide it, and with it they soon dispersed. The taro was exceedingly well cooked, dry, and farinaceous. The bread-fruit they said was too young, and not being considered good by them, they objected to giving us any of it, but did not hesitate to eat it themselves. A pig is a great treat to them, for, although they have plenty, they prefer selling to eating them.

In the grove near the village, we saw several piles of stones. They were the graves in which they formerly buried the dead, just below the surface. On the top were placed stones, forming a high pile. Now they bury their dead in graves about three feet deep, and enclose them with the Dracæna, which grows rapidly, and forms a pretty and neat trellis.

Toa became quite communicative, and as he showed me about his village, he told me, through the interpreter, that before the missionaries came, the chiefs all had their "aitu," or spirits, which they worshipped, and that they felt themselves obliged to do every thing they commanded. His aitu were fresh-water eels, which he constantly fed in the brook near the village. I visited it, and requested him to catch one, which he attempted to do; but after a long search, turning over large stones, and examining holes, he was unsuccessful. He said there were many in it formerly, and quite tame; but since he had embraced Christianity, they had all been caught and destroyed. On further questioning him, he told me that he had himself eaten them; and that formerly, if any one had touched, disturbed, or attempted to catch one, he should have killed him immediately. He said his eels were very good to eat, and was sorry he could not find any more; and laughed very heartily when I spoke to him about eating his aitu. I mention this circumstance to show the powerful effect the Christian religion has had upon the ancient customs of this people.

Toa, after his unsuccessful search for his favourite eels, went into the brook for a bath, which he told me he very frequently did during the day; and it was delightful to see the pleasure he took in it.

Towards evening, we took our leave of Toa, thanking him warmly for his kindness: we were escorted to the outside of the village by his friends and relations, whilst Toa himself accompanied us to Pago-Pago.

The natives have no fixed time for meals, eating whenever they feel hungry. Their food consists of pork, fish, bread-fruit, cocoa-nuts, bananas, &c., but principally of taro. All of these are produced in abundance. Water is their common drink, and, notwithstanding cocoa-nuts are so abundant, the milk is seldom used; the trouble of procuring them is too much for them. They use ava made from the Piper mythisticum, and it is the only intoxicating drink they have.* It is never used to excess, although old and young, male and female, are very fond of it. The taste, to one unaccustomed to it, is not pleasant, being somewhat similar to that of rhubarb and magnesia. Their mode of preparing it is the same as has already been described.

They sleep on the large coarse mats, with which they always cover the floors of their houses. Over these they spread coloured tapas, some of which are also used for nets of protection against the numerous musquitoes. For a pillow they use a piece of bamboo supported on small legs. Their hair is usually shorn close, and coral lime, or ashes, sprinkled over it to destroy the vermin, which are generated in great numbers in their tapas and mats.

According to old Toa, a native is in a comfortable condition when he has a good house; a well-made visiting canoe; a neat, handy, large, and well-formed woman for a wife; a taro-patch, with a good fence; cocoa-nut and bread-fruit trees, with a reasonable number of pigs.

The women are now admitted to the same privileges as the men. The chiefs have still great power over the people, although the influence of the missionaries has tended greatly to diminish it. Most of the people look back to the days when polygamy existed with regret, and cannot understand why they are restricted to one wife. They say, "Why should God be so unreasonable as to require them to give up all their wives but one for his convenience?" They pay just attention to their religious duties; morning and evening prayers are always said, as is grace before their meals, and with a devotion rarely to be seen among civilised men.

Their amusements seem to be few; their books are constantly before them, and a great portion of their time is employed over them. Old gray-headed men may be seen poring over the alphabet, and taught by some of the youngest of the family. The employment of the men is to cultivate and weed the taro, and to take care of the fences; they also make sennit for their houses, and canoes for fishing. The women are engaged in making mats, and the boys and girls play, and wait upon their seniors.

Next to study, fishing is their great employment. This is performed by driving the fish towards the nets in shoal water, where they are easily caught. The cast-net is also used.

The only amusement we saw, is a game called lafo-tupe, which is played with cocoa-nut shells, and resembles shuffle-board.

Their observance of the Sabbath is very strict, and it is impos-

* The Ava does not, according to the whites, intoxicate in the same manner as *ardent spirits*, but produces a temporary paralysis, tremors, and a confused feeling *about the head*, indistinctness and distortion of vision, somewhat resembling the *effect of opium*.

sible to get a native to do anything whatsoever on that day, but perform his religious duties. They attend church regularly. In Mr. Murray's congregation there are about thirty communicants, and nearly one thousand attendants on public worship. They come from many of the surrounding villages. Mr. Murray has been here about three years, and the native preachers nine or ten; he is well acquainted with the difficulties of his station, but seemed to feel assured that his exertions were about being crowned with success.

Polygamy, which formerly was practised to a great extent, still exists among those who have not been converted.

Circumcision is practised among them.

They carry their children on the hip, as in the low Archipelago. They are early betrothed, without regard to age, the girl being saa, or tabooed, until of marriageable age. During the intervening time, all kinds of native property are accumulated, such as mats, &c., for the bridal day. Two days previous to it, the inhabitants of the district are gathered together for feasting and dancing. On the third day, the bride is produced before the assembled multitude, and the ceremony attendant on marriage that was customary among the Jews performed. After the marriage had been consummated, the dowry was exhibited, and each article being held up, it was proclaimed by whom it was presented; the multitude, having consumed all the eatables, and exhausted their strength in rioting and debauchery, dispersed.

I have seldom seen a more devout or attentive collection of people than I observed at times in the church-meeting, which was held in the council-house at Pago-pago.

Upon the conclusion of a long service, they were observed to divide themselves into three parties; one remaining in the church, and the other two repairing to different buildings. The afternoon is employed in further explanations and examinations by the missionaries. The native missionaries have also meetings on Fridays.

Their mode of singing hymns is peculiar, the whole mass joining in some parts, with all the lungs they could muster. This exercise appeared to afford them great delight. The congregation were mostly dressed in tapas, or clothed in one sort of garment or other; but the person who attracted our attention most, was the consort of Pomale. From being the wife of the most influential personage, she had received more presents from us than any other; and she endeavoured, on this occasion, to display on her person the greater part, if not all, that she had thus acquired. These consisted of a red calico gown, four or five petticoats of different colours, woollen socks, green slippers, cap and bonnet, a large plaid blanket shawl, and a pair of polar gloves, the whole surmounted by a flaming red silk umbrella—and this with the thermometer at 87°! It was difficult to keep our eyes off her during the service, and before the end of it all her finery became awry. The other natives also seemed to have the desire of exhibiting their acquisitions, though these consisted frequently of no more than a vest, or a pair of pantaloons, without

shirt, or occasionally of a long-skirted coat, without either of the former garments, so that a small roll of tapa was needed to cover their nether parts.

Some unauthorized attempts were made to induce the natives to break the missionary laws, by offers of great value in their eyes; they were told the missionaries would not see them. On understanding which, they pointed to the heavens, and replied, "There missionary see." This was conclusive, and a just and severe rebuke.

The Peacock and Flying-Fish again joined us on the 18th of October. Orders were given them to proceed to Upolu, to commence the survey of that island.

The climate of Tutuila is mild and agreeable, particularly at Pagopago, where the temperature is lower than it is elsewhere on the island, in consequence of its generally being overshadowed with clouds that hang on the high land. There is usually a fine breeze, which sets in about ten o'clock, and continues until sunset. The nights being calm, much dew falls in fine weather. We had little fair weather during our stay, and the prognostication of the natives proved too true respecting the difficulty of seeing the sun and stars. The wind at times was very strong, almost a gale, accompanied by light rain and mist.

In our explorations, nearly all the villages of this island were visited. Those of Fagaitua and Leone, on the southern coast, are the largest, and are more of the Devil's towns than the others. One of their customs is truly savage. They seldom use pork as a food, consequently it is a great rarity with them; but at intervals of several months the villagers assemble at a feast, at which thirty or forty hogs are killed, when they gormandize on them for four or five days, or as long as the food lasts. The whole is eaten, entrails and all. Fish and taro are the principal food, and large numbers of the natives may be seen fishing off the coast in fine weather. The kind of fish usually caught are mullet.

There is a large kind of worm which they esteem a great delicacy, and which is eaten with much relish. It is impossible to see them sucking down the entrails of the biche-de-mer, holithuria, and echina, without disgust. They also eat many of the shell-fish that are found on the shore.

CHAPTER XIV.

SAMOAN GROUP—UPOLU—SAVAII.

Departure of the Vincennes from Tutuila—Her Narrow Escape from Wreck—Appearance of Upolu—Message from Captain Hudson—Trial of Tuvai for Murder—Council of the Chiefs—Arguments in Behalf of Tuvai—Captain Hudson's Reply—Decision of the Case of Tuvai—His Behaviour—Complaints of the Natives against Whalers—Pea's Visit to Tuvai—Outrages of Opotuno, a Native Chief—Interview with Malietoa—His Daughter—Lake of Lauto—Its Legend—Superstition regarding it—Attempt to Capture Opotuno—Fono, or Council of High Chiefs—Its Object—Regulations discussed and adopted—Demand for Opotuno—Fono adjourned—Its Second Meeting—Speech of Malietoa's Orator—Reward offered for the Apprehension of Opotuno—Territorial Divisions of Upolu—Tyranny of Tamafago—War of Aana—Desolation of that District—Island of Manono—Island of Apolima—Proceedings of the Porpoise at Savaii—Bay of Mataatua—Peculiarities of Inhabitants—Sapapale—Dr. Pickering's Journey in the Interior of Savaii—Curiosity of the Natives—Fishing on the Coral Reef—Description of Savaii—The Porpoise proceeds to Tutuila—Reunion of the Squadron—Earthquakes.

THE surveys of the island of Tutuila having been completed by the 23rd November, on the 25th we weighed anchor. In leaving the harbour we had a narrow escape from wreck; the almost constant south-east wind, which is fair to a vessel entering the bay, and makes it easy of access, is ahead on going out, which renders egress difficult; it therefore becomes necessary to make frequent tacks, and a vessel must be well manœuvred to escape accident, for to miss stays would be almost certain to bring about shipwreck. When we beat out, the wind was light, and it failed altogether just as we reached the most dangerous part of the channel; we were in consequence brought within an oar's length of the reef, on which a heavy surf was breaking. The moment was a trying one, and the event doubtful; all were at their stations, and not a word was spoken. Of my own feelings on the occasion I have no very precise recollection; merely remembering that I felt as if I breathed more freely after the crisis had passed and we were in safety.

The distance between Tutuila and Upolu, of thirty-six miles, was soon passed, and in the morning we were delighted with the view of the latter island as we ran down its coast to the westward. It appears much richer and more fruitful than the other islands of this group, and may be described as of moderate height, rising gradually in a succession of ridges from a low shore; here and there broad and fertile valleys are seen, with numerous streams falling from the mountains in cascades. The eastern portion of the island is much more rugged than the western; the main ridge runs east and west, and ridges or spurs run back to it from the northern coast, in a

south-east direction. Between these lateral ridges are broad and fertile valleys, decreasing in width as they recede from the coast. The shore is lined with a coral reef, which is now and then interrupted by channels, and forms snug and convenient harbours.

At noon we descried the Peacock lying in the harbour of Apia, and shortly afterwards I received a message from Captain Hudson, saying that my presence was required on shore. In the hope that it was not a business of such a nature as to cause detention, I left the Vincennes in the offing, while I went ashore in my boat. On reaching the land I found the chiefs engaged in the trial of a native called Tuvai, who had killed an American named Edward Cavenaugh, a native of New Bedford.

It appeared that on Captain Hudson's arrival, the murderer was pointed out to him in the village, upon which he very properly determined to have the offender punished, and gave orders to have him arrested. He was, in consequence, seized in a house near the water, and carried on board the Peacock. Captain Hudson then requested a conference with the neighbouring chiefs, who, in consequence, had assembled on the 27th.

The *fono*, as such assemblies are called, was held in the council-house, or fale-tele, where the chiefs were collected. Captain Hudson stated that the object of his having requested them to assemble was to bring the accused to a trial before them, in order that if his guilt were established, he might be brought to condign punishment: he then pointed out to them the guilt and consequences of the crime of murder, and declared the course he had considered it his duty to adopt. The chiefs listened attentively to this address, and in reply, through the principal one, admitted that the man taken was in reality the guilty person, a fact known to every person upon the island. Captain Hudson then stated to them that it was absolutely necessary that Tuavi should be promptly punished, in order that others might be deterred from the commission of the same crime. He suggested, however, that in spite of the universal belief in Tuavi's having committed the crime, it was proper that he should undergo a trial, or at least an examination, in order that he might have the privilege of being heard in his own defence.

This suggestion being approved, Tuvai was brought on shore under a military guard, and placed in the centre of the building. He was an ill-looking fellow, of about twenty-eight years of age, and manifested no fear, but looked about him with the greatest composure.

The trial was simple enough: he was first asked by the chiefs whether he was guilty of the crime, to which he answered that he was; being next asked why he had committed it, he replied that he had done it in order to possess himself of the man's property (clothes and a knife).

The chiefs, among whom was Pea, of Apia, to whom the criminal was distantly related, made every effort in his power to save his life; stating that he was in darkness, and therefore unconscious of the guilt of the action, when he committed the murder; that as they had

but just emerged from heathenism, they ought not to be subjected for past actions to laws they knew not; that these laws were made for people who occupied a more elevated station; that Tuvai was a poor man of no account, and was not a person of sufficient importance to be noticed by a great people like us; that faa Samoa (the Samoan fashion) did not allow men to be put to death in cold blood, but that after so long a time had elapsed, as in the instance before them, it admitted of a ransom.

Pea went on to say, that many bad acts had been committed upon natives by white men with impunity, and asked whether the Christian religion sanctioned the taking of human life. He then appealed to our generosity to pardon the present crime, and assured us that no such offences should be committed in future.

Pea had one of those countenances which exhibits all that is passing in the mind. It was amusing to see him at one time exhibiting a picture of whimsical distress at the idea of being compelled to put his kinsman to death, and immediately afterwards laughing at something ludicrous which had occurred to him.

Pea was seconded in his endeavours by Vavasa, of Manono, one of the finest-looking of the chiefs, whose attitudes and movements were full of grace, and his manner exceedingly haughty and bold.

In reply to their arguments, Captain Hudson told them that nothing but the life of the offender could satisfy the demands of justice, and that they must execute the criminal themselves.

This announcement caused much excitement; the chiefs again asserted that they knew no such laws; that by the customs of Samoa, the anger of the friends and relations of a person who had been killed, was to be appeased by a present from the criminal or his relations, and by a form of submission, which consisted in knocking their heads three times on the ground. To this it was replied, that the guilt of the prisoner had been proved and admitted—he must die.

The chiefs, after much reluctance, consented, but expressed great repugnance to an immediate execution. They urged, in a most strenuous manner, that the criminal should be carried on board ship, and executed there, or that he should be taken to some uninhabited island and left.

At this point of the discussion, the Vincennes was announced as being in sight, and the proceedings were suspended. An officer was immediately despatched, who, as has been already mentioned, boarded that vessel off the harbour.

When I landed, I found the assembly anxiously awaiting the result of my arrival. Captain Hudson and myself had a private interview, in which he detailed all the facts, and stated that it had been his intention to compel the chiefs to make all the preparations for the execution; but before it was carried into effect, to come forward and reprieve the criminal, at the same time requesting Mr. Mills to make an appropriate speech, stating the reasons for the pardon.

After a full discussion of the whole subject, we came to the conclusion that it would be best to transport the criminal to some other island; for it appeared probable that this would have a better effect

than even his execution, as it would be longer remembered, while, to cause him to be put to death, might naturally excite a desire of revenge.

This decision was at once communicated to the chiefs, with a statement, that in conformity with the laws of Tahiti in such cases, Tuvai should be transported to a desert island, where he would never again have an opportunity of killing a white man. The chiefs, although evidently relieved from the most intense part of their distress, were still much affected by this decision.

The prisoner was then ordered to be taken on board the Peacock, whither he was followed by a crowd of natives, with many tears and lamentations, among whom his wife was the most affected. Among others, Pea, the chief of Apia, to whom, as has been stated, the prisoner was related, was very much distressed and excited. Unable to vent his rage and trouble in any other manner, he spent it upon the crowd around him, striking in all directions with a huge stem of a cocoa-nut leaf, by which he soon dispersed them. I felt a curiosity to see what effect the sentence would have upon the prisoner. Death he would have suffered without uttering a murmur; but when he heard he was to be taken from his native land, his firmness was overcome, and he was observed to shed tears. He made no resistance to his being removed on board ship; but after he got there, he said he would rather be put to death and buried in his own native island than banished to a desert one.

After this difficult business was arranged, they brought their own grievances before me, and particularly their complaints against the American whalers. They said that some of them had evaded their port-charges and refused to pay for the provisions with which they had been furnished. To this I replied, that I was ready to indemnify them for their losses, and should ask no other proof of them than their own statement. They appeared struck with the unexpected liberality of this offer; but, after consultation, as if to manifest a corresponding feeling, declined to accept it. I then informed them that their port-charges for the squadron should be paid, which gave much satisfaction, particularly to old Pea, who would derive the principal benefit from them. The fono then broke up.

After Tuvai was again on board ship, old Pea paid him a visit, in the course of which the former melted into tears, howled bitterly, and begged that he might be taken on shore to be put to death, in order that his body might be buried in his native soil. It appeared from information that we received, that this was a part of a concerted plan to obtain a further commutation of his sentence, and that this affecting interview was got up in order to excite our sympathies. Finding it did not produce the desired effect, old Pea went about the ship with a doleful visage, exclaiming, "Eoloisa-ia-tu Tuvai"—have compassion on Tuvai.

The surveys of Upolu were not finished; the Flying-Fish, which was to have aided in performing them, had not yet been seen or heard from. This was a disappointment, as it compelled me to bring the Vincennes into the harbour, and thus incur a serious delay.

After I had decided upon this step, I learned that a chief of the

EMMA MALIETOA.

name of Opotuno had again become troublesome, and was threatening vengeance upon all the whites who might fall in his power. Opotuno was a bloodthirsty fellow, and it would be doing the islands a great service should he be removed; there was not a shadow of doubt that he had murdered twelve whites, of whom several were Americans: he was a determined enemy to the whites, and in the habit of saying that he would omit no opportunity of killing all who might come within his power. Upon the approach of all men-of-war, and during their stay, he lived in the mountains of Savaii, where it was impossible to find him.

In order to effect his capture, I visited Rev. Mr. Williams at Fasetootai. On my return we stopped at Sagana for the purpose of visiting Malietoa, the principal chief of the Malo or conquering party.

I have rarely seen a place where more attention is paid to cleanliness than at Sagana. A similar regard to neatness prevails in the walks around the village, and in the cultivation of the taro, melons, and bananas, which is carried on in the immediate vicinity. The paths leading to these cultivated grounds pass through fine shady groves. The preservation of the broad walks and paths appears to be rather an amusement than a labour to the villagers.

Here Malietoa was seen in his domestic circle, with his wives and children around him. I found him in a small house, enjoying the afternoon breeze, with his daughter playing about him. She was about fifteen years of age, and decidedly the prettiest girl we had seen in this group; her name was Emma, and she was as intelligent as she was pretty.

The chief, whose hair was white with age, made us warmly welcome, and wished to go over to his fale-tele to receive us as became chiefs, but this I would not permit. His wives busied themselves in getting things in order, very much after the fashion of other parts of the world, when a stranger arrives unexpectedly. In a few minutes the fine mats were laid, the stools, calabashes, and straw put away. A clean shirt was slipped over the old man's head while my attention was called off to another object.

Malietoa's house was not larger than the others in the village, and exhibited no other difference from them than in containing a dais or platform, occupying about a third of it, and raised about a foot higher than the rest of the floor.

When the domestic arrangements were completed, large bunches of bananas and fresh cocoa-nuts were brought in and presented to us. Mr. Wilson was an excellent interpreter, and by his aid I had a long and agreeable talk with the old chief, who, when his wars were touched upon, appeared full of fire and animation.

The lake Lauto lies to the westward of this place, and in the centre of an extinct crater. The edge of the crater was found to be two thousand five hundred and seventy feet above the sea, and the descent thence to the water of the lake is one hundred and twenty feet. The form of the lake is nearly circular, and it has a subterranean outlet.

The border of the crater is clothed with the usual forest foliage

of these islands, which, however, exhibits here more than usual beauty.

The poets of the island have appreciated the beauty of the place, and allude to the perpetual verdure which adorns the banks of the lake in the following line:

"Launto'o e le toi a e lau mea."

"Lauto, untouched by withered leaf."

There is a legend connected with this lake that has more of poetic beauty and feeling than one would have supposed to exist among so rude a people. It is as follows:

Many generations since, during a war between Upolu and Savaii, a number of war-canoes from the latter island crossed over to attack Ulatamoa, (or, as it is now called, Ulumoenga,) the principal town in the district of Aana. At the time of their approach, two brothers, To'o and Ata, chanced to be paddling their canoes in the channel between the reef and the shore, and before they could reach the land were attacked by a party of Savaiians. After a valiant defence, Ata was overpowered and slain, while To'o narrowly escaped the same fate.

Overwhelmed with sorrow at the loss of a brother whom he tenderly loved, To'o retired to a neighbouring mountain, and, burying himself in the darkest recesses of its forests, made them resound with his bitter lamentations. At length in his wanderings he came to the summit, where, stooping down, he scooped out with his hands a vast hollow, and, leaning over its brink, suffered his tears to fall in until it was filled. The lake thus formed has ever since borne the appellation of Lauu-to'o.

The regard of To'o for his brother's memory was further evinced by his adoption of Ata's name, conjoined to his own, as his family title, and the appellation of Toomata, a contraction of To'o-ma-ata, is retained by his descendants, who are still chiefs of note in Upolu, and from whom the tradition was derived.

The lake of Lauto is regarded with superstitious dread by the natives, who believe it to be the abode of the spirits, who, in former times, were regarded with great veneration, and worshipped. These were supposed to inhabit the waters of the lake, in the shape of eels, as thick as a cocoa-nut tree, and two fathoms long. The attempt of our gentlemen to explore it was looked upon as such a profanation that their native guides left them, and regarded them as persons doomed to accident, if not to destruction. The eels were represented as so savage and fierce that they would bite a person's leg off. No eels, however, nor any other fish, were seen in the lake.

In the neighbourhood of the crater no rock was observed in place, nor any light scoria. Only a few fragments of stone were scattered about.

The cone of the crater of Lauto is flatter than the others of the same character that were visited, and particularly than that of *Mount Tofua*. This is the westernmost of them all, and lies behind

Fasetootai. It rises so boldly, that it is seen distinctly from the sea. This, with all the other craters, are situated upon the central ridge, and the most conspicuous of those which remain, are Siusinga, which lies behind Sagana and Faliata. There is also one upon Mount Malata, in the rear of Fangaloa, and another on the southern side of the island, near Salomana.

In traversing the island of Upolu, many deep gorges were seen, in which there were waterfalls. One of these cascades was measured, and found to be seven hundred and fifty feet in height, so that the whole of the water was dissipated in spray before it reached the bottom. These glens are wild in the extreme, and beautiful from the great variety and peculiar character of the foliage with which they are clothed.

The south side of Upolu, like that of Tahiti, is much more luxuriant than the northern, which is owing to a like cause, namely, that it receives more moisture from the prevailing winds.

The wild orange grows everywhere in great abundance, and in some places the road was literally strewed with the fruit, which here equals the cultivated variety in size.

In pursuance of the resolution I had adopted, Captain Hudson set out on the 30th of October, with the boats of his ship, for the purpose of attempting the capture of Opotuno. This noted chief, among other acts, had taken possession of two boats, sent on shore by the whale-ship William Penn, Captain Swain, of Nantucket, killing the chief mate, and the two boat-steerers. The third officer of the vessel was also wounded, and left for dead upon the beach; he was, however, picked up by some females, who removed him to a hut, where, through their kind attentions, he recovered. He did not, however, rejoin his ship, but remained for some time on the island.

The most surprising part of the history of this transaction is, that Captain Toby, of the ship Swift, of New Bedford, afterwards purchased these boats from Opotuno, although he knew that chief had obtained them by murdering this captain's own countrymen.

On their arrival off the part of the island where Opotuno usually resides, they made for the shore under pretence of surveying, and reached the village of Setipetea, which adjoins that where he dwells. We afterwards learned that no sooner had the boats got within the reef, than he prepared for his flight to the mountains. The news of the capture of Tuvai, and the reappearance of boats from a vessel, (the Peacock), which had passed about ten days before, served to put him on the alert. He had, however, become so daring, that he did not at once fly, but awaited more decided indications of hostility; and when Captain Hudson, accompanied by only two men, passed through his village, having left his boats only a mile distant, he entertained the intention of shooting him. He had actually cocked his gun for this purpose, when one of his followers advised him not to fire, as he would bring great trouble on the island if he shot a chief. When the boats' crews afterwards entered Opotuno's village, the inhabitants showed much alarm, but the chief was missing. It was therefore considered advisable to make no hostile

demonstrations, as no good purpose could have been effected by following him to the mountains, where it would have been impossible to apprehend him.

The boats therefore returned, and although without succeeding in the main object of the expedition, something was gained in reviving his apprehensions of being captured. His village was not destroyed, because to do so would have been no injury to him, but only distressing to its poor inhabitants.

The impunity he has hitherto enjoyed, has served to render him audacious, and it is not long since he put to death an American seaman, who had been left sick in his charge.

Opotuno is detested by his brother chiefs, not only for his aggressions upon foreigners, but upon his countrymen also. Only a short time before our arrival, he seduced and carried off the wife of Vavasa. This act was considered so outrageous, and was so deeply resented, that we were informed a war was only prevented by the near relationship of these two chiefs. The Samoans regard with horror the idea of those connected by ties of consanguinity fighting against each other.

Opotuno is not only related to Vavasa, but is the adopted son of old Pea, of Manono, a connection which was not without its effect in averting hostilities.

On the 4th of November, a fono was held, according to the appointment made with Malietoa, in the fale-tele of Apia. All the officers who could be spared from the ships were ordered to attend. Old Pea, the chief of Apia, seemed to be the master of ceremonies on the occasion. Clean mats were spread for the chiefs, and chairs and benches, borrowed from the missionaries' houses, were placed for us, opposite to them. All the highest chiefs of the "Malo" party were present, except Pea of Manono, and two minor chiefs of Savaii. Malietoa presided. His whole demeanour was dignified, composed, and thoughtful. His personal appearance has already been spoken of, and the form of his head, his white hair, and dignified bearing, again reminded us of General Jackson. He is slender and tall, although somewhat bent by age. It was to be regretted that his dress was ill chosen, and rather detracted from the respect he would have inspired had he appeared in his native garb; he wore pantaloons, a round jacket, and a pink and white striped cotton shirt.

Tooa, the nephew of Malietoa, who acted as spokesman, and whose countenance betokened the interest he felt in the business, attracted attention in the second degree. Then came Mole, the son of Malietoa, Maletau, their general, the most renowned leader in the war of Aana, and Tai-ma-le-lagi, Malietoa's brother. There were also present a number of chiefs of less distinction, among whom was old Pea, of Apia; although he was compelled to take his place, yet he did not fail to be conspicuous, not merely by his personal appearance, but by his officiousness.

The proceedings were conducted with great ceremony; there was a marked difference between this fono and the solemnity of our Indian [illegible]*aucils*. The Samoan assembly appeared more quiescent, the

proceedings exhibited more refinement, and the customs partook of an Asiatic character.

In all such meetings a rigid order of precedence, that seems well understood by every one, is established; all conversation is carried on in a whisper; no one is seen standing in the presence of a superior, and sitting with outstretched legs is considered indecorous. Articles were never passed over a person, and no native ever ventured to come in contact with a chief.

The background, on the side of the natives, was filled up with inhabitants from different parts of the island.

On the opposite side of the building, the officers of the squadron and the missionaries formed a numerous group. Among the latter was our friend, Mr. Williams, and his son, whom I had appointed to act as consul, until the pleasure of the government of the United States was known, and whom it was intended to present in this capacity to the meeting, in order that he might be recognised formally by the chiefs. Mr. Heath, who was believed to be best acquainted with the Samoan language, was kind enough to officiate as our interpreter.

The object I had in view in requesting the fono, was to procure the formal enactment of laws and regulations which might secure to our whale-ships a certainty of protection and security.

We entered upon the discussion of the proposed regulations; these were adopted in a form which promises to be mutually beneficial.

One of the articles referred to the redress of injuries committed by the natives, and provided for the punishment of those who had been guilty of crime, by giving them up.

As authorised by the spirit of this article, I made a demand for the murderer, Opotuno, and stated that a compliance with this would settle all disputes between us. This demand produced a great sensation among the chiefs, and much excitement prevailed in the meeting. Malietoa, in reply to it, expressed himself strongly in detestation of the character of Opotuno, and stated that his capture by us would give him satisfaction, but argued that the regulations now enacted could not apply to his past misdeeds, and that he would only come within its operation should he be again guilty of like crimes.

He next argued, that the inevitable consequence of any attempt on their part to seize Opotuno, would be to involve the whole group in a civil war, for he was not only a powerful chief himself, but connected with others still more so; and that a civil war was that which he most desired to avoid. He, however, went on to say, that so far as he was concerned, no opposition would be made to any steps on our part to secure one whom they knew to be guilty of great outrages; but he could not in any way assist.

In conclusion, he stated that the islands had, until within the few years that had elapsed since he obtained the command, been the seat of continual wars: that they were now aware of the advantages of peace, and had a just sense of the benefits they in consequence enjoyed; and declared that he should do all in his power to preserve the blessings of peace, and maintain the unwonted state of

prosperity. For these blessings he ascribed high acknowledgments to the missionaries, saying that he hoped the Samoan people would in due time profit by the lessons taught them, and adopt all the improvements of the Papalangis.

Few persons have ever inspired me with more respect than this old chief, and his sentiments were delivered by Tooa in an impressive manner.

It was not my object to drive them to extremities, or to press for an instant decision. I therefore proposed that before they gave me a final answer in relation to Opotuno, they should take time for consideration and reflection, for which purpose I suggested that the meeting should be adjourned until the next day, which was accordingly done.

On the 5th of November we again met, when the arguments urged the day before were a second time brought forward.

We were favoured with a set speech from the official orator of Malietoa, an old blind chief, who stood up, supporting himself by leaning with both hands upon a long stick. In this attitude he poured forth such a torrent of words as few of us had ever before heard; and if eloquence be composed of elocution and a ready flow of language, he was fully entitled to the praise of possessing it.

This speech was made up of short and distinct sentences, was spoken in a loud voice, and contained many repetitions.

However contrary this speech may have been to the cool determination of Malietoa, it seemed to meet the popular feeling; and there is no saying what might have been the consequences, had not the missionaries contrived to check the outburst. It was now proposed that the fono should receive and publish a document, offering a large reward for the seizure and delivery of Opotuno, dead or alive. This proposition was a new source of excitement, and old Malietoa exclaimed with emphasis, "Give me the paper!—I will put it upon my house, where the world shall see it."

A copy was then nailed on the pillars of the council-house, which Pea was made responsible for, and others were prepared and distributed to the several chiefs, when the fono was dissolved.

The island of Upolu is divided into three districts, viz., Atua, Tua-Masanga, and Aana. Each of these was formerly governed by a separate and independent chief, styled Tui. Atua occupies the eastern end of the island, which extends as far as the town of Lauli; Tua-Masanga is the middle division, and includes the towns of Siuma and Safata, on the southern shore; Aana lies west of this, and comprises the remainder of the island. The first of these districts is of the greatest extent, the second is at present the most powerful, and the third is the most fertile. The union of these districts under one general government, in which the island of Savaii is also included, is a late event. Previous to 1830, this island had suffered from the usurpation of a chief of Manono, called Tamafago, who was a great tyrant, but who had contrived to cause his person to be considered as sacred, and to impress on his countrymen the idea that it would be sacrilege to disobey, hurt, or even to touch him. After the conquest of a rival district in Savaii, he assumed

the style of king of that island, "O le Tupu o Savaii," a title which Malietoa now enjoys, but without deriving from it any power.

Tamafago not only ruled Savaii with royal and divine attributes, but obtained a complete ascendancy over Upolu, where he compelled all to give up their property to him, and to yield the women of all classes to his desires.

Finally, his tyranny and excesses exceeded the bounds of patience, and the people of Aana rose against him, conquered, and put him to death. From this arose the war of Aana, which will be again spoken of; for the chiefs of the other islands considered themselves bound to avenge the death of Tamafago. The people of the other districts of Upolu were not united in the support of their neighbours of Aana, who had made themselves almost universally odious by their haughty bearing. The war was a bloody one, and resulted, after a continuance of two or three years, in the entire defeat of the people of Aana, by those of Manono, who expelled them from their district, and forbade their return to it on pain of death.

This fertile region remained entirely unoccupied until the arrival of the missionaries; but when the Christian influences of their preaching began to be felt, the decree that condemned Aana to solitude was annulled, and the few of its former inhabitants who had escaped slaughter were permitted to return to their ancient homes.

The island of Manono, whose inhabitants exerted such an influence in the closing scenes in the war of Aana, is situated within the sea-reef of Upolu. It contains eleven hundred inhabitants, and is the residence of the chief Pea, who must be distinguished from the inferior personage of the same name who resides at Apia. This island is covered with forests throughout its whole extent; its circumference is about four miles; and it is the station of one of the English missionaries.

In spite of its small extent and scanty population, Manono is identified with the political history of all the other islands of the group; for, during the reigns of the two Tamafagos it held supremacy over them. The reason of its acquiring and exercising this political supremacy, is principally to be ascribed to the possession by its inhabitants of the small island of Apolima, which they used as their "olo" or citadel. To this retreat, inaccessible except at a single point, the inhabitants of Manono were in the habit of retiring when pressed by too powerful an enemy; and when his rage had spent itself, they thence returned to their home with undiminished numbers.

This natural fortress lies between Manono and Savaii, and soundings extend to it both from the shores of Upolu and Savaii. The coral reef attached to it is but small.

Apolima, on the most cursory examination, is evidently the crater of an extinct volcano. Perpendicular cliffs rise from the sea around its whole circuit, except at a single point on its northern side. Here the lip of the crater is broken down, and admits the water of the sea into a small bay, which affords a safe harbour for boats. The entrance to this is so narrow as to admit no more than one boat at a time, and is dangerous whenever there is any surf. It may,

therefore, be easily defended. There is only one other point on the island where it is possible to effect a landing, namely, at a small height to the westward of the bay, and here it can only be done when the water is perfectly smooth. But an enemy landing here would have made no progress, for before the interior can be reached from this point, the steep and precipitous rocks remain to be climbed.

The highest point of Apolima is on its south side, where it is four hundred and seventy-two feet above the sea. The perpendicular cliffs which face the sea are, of course, bare of vegetation; but with this exception, the whole surface is covered with cocoa, bread-fruit, and other trees, or with plantations of taro, yams, &c.

In the centre of the island is a village of about twenty houses, and the permanent population consists of no more than about seventy-five persons. The people are evidently jealous of the maiden reputation of their natural fortress, and showed much concern when we visited it, which the women even manifested by shedding tears.

While we were engaged at Tutuila and Upolu, the survey of the island of Savaii was performed by the Porpoise. The brig first touched at Sapapale, the residence of the Rev. Mr. Hardie, who gave them a cordial welcome, although much surprised at so unusual an arrival.

Many of the natives collected to view the white men, of whom so many had never been seen together on the island. In their remarks, they, among other things, praised our people for their beauty.

The bay of Mataatua was found to be the only harbour in the island where a vessel can anchor with safety.

A great difference in form, physiognomy, and manners from those of the adjacent villages, was observed here, as well as a change in the character of many articles of manufacture. The war-clubs and spears were of uncommon form, and neatly made.

The natives appeared harmless, but manifested great curiosity. The women are more gracefully formed than at the other islands.

The native missionaries appeared to exercise much influence over them, having put a stop to many of their former evil practices.

On the 24th, the brig again arrived off Sapapale, after an absence of nine days. Here they took on board Dr. Pickering and Lieutenant Maury.

Dr. Pickering endeavoured to visit the Mu, or burnt district. Preparations for the journey occupied much time; and, among other things, it was stipulated that there should be only two meals a day—one early in the morning, and another in the evening. The first day, however, was to form an exception.

Mr. Hardie accompanied the party for a few miles, and they soon after their departure met a native who was styled "the Lord of the Forest." The party were desirous that this man should accompany them, for his appearance promised more than that of the others, and it seemed it was necessary to obtain his permission before they could enter the forest. In times of scarcity, his domains become of great value, in consequence of the quantity of wild yams they yield. This person agreed to accompany them, and they proceeded along

a good path, through cultivated grounds of taro, Dracæna, &c. Mr. Hardie, before leaving the party, endeavoured to make the natives understand the nature of Dr. Pickering's errand ; the latter was unable to make himself understood by them. They had not proceeded far before they came to an uninhabited house, where the natives stopped for the purpose of preparing dinner, the cooking of which occupied three hours! The day was in consequence well advanced before they again started, and at about 4 P. M. they reached an open shed, about two miles from the last stopping place, where the natives concluded to halt for the night. The occupants, who consisted of two elderly women and a young man, were dispossessed, and the shed was enclosed by hanging up leaves of the Heliconia, which resemble those of the banana. They then prepared some excellent cocoa-nut pudding, and heated some cocoa-nut milk in the shells. This beverage is usually taken by them every morning and evening ; the natives all saying grace before their meal, and prayers before they went to rest. It was late the next morning before Dr. Pickering could get the party in motion ; and, pursuing their route, they soon overtook the Lord of the Forest, who had preceded them, and was employed in cutting a path through the woods, although that already made might have been easily passed through. No inducement could make them change their purpose, and they continued to work at their turnpike, lopping off large branches, beating down ferns, &c. After some time, they reached a rising ground, which they found to be on one side of a crater, about a thousand feet above the sea, and seven miles inland.

Dr. Pickering now concluded that it was a hopeless task to attempt to penetrate into the interior with such guides, and determined to return. They succeeded in reaching the coast about noon the next day.

During the stay of Dr. Pickering and Lieutenant Maury on this island, they were objects of great curiosity ; and whenever they walked out they were followed, not only by boys, but by grown men, who did not, however, offer to molest them in any way. When they passed through the villages, all the inhabitants, not excepting the scholars from the schools, came out to look at them.

They here witnessed the taking of fish in a different mode from that practised on the other islands. Application was made to the chief, and through his influence a meeting of the head men of the town was called, and a fishing expedition agreed upon. The net, if it could be so called, was prepared, and in the course of two days everything was ready. The net was a kind of chevaux-de-frise, made of the leaves of the cocoa-nut tree, split and wound round a line, and was a little less than half a mile in length. It was more formidable in appearance than reality. This net was taken out, at high water, to the coral reef, in three pieces, then fastened together, and thus made to enclose a large extent of water. This space was gradually contracted by doubling up the net, which answered the same purpose as the drawing of a seine. The fish did not attempt to pass it, and were thus driven towards a certain point, where a sort of sack of matting had been placed for them to enter. As the fish

were gradually enclosed by the mat, and the tide fell, the scene became an animated one. Men, women, and boys, to the number of two or three hundred, were eagerly engaged in picking up or catching the stragglers as they were seen leaping up; the whole area seemed alive with fish, jumping in every direction, some over the heads of the natives, and thus escaping, while others leaped into hand-nets. About a canoe-load was caught, comprising thirty different kinds of fish, some of which were six or eight pounds in weight, but the majority were smaller.

Savaii is the most western island of the Samoan Group, and is also the largest, being forty miles in length and twenty in breadth. It is not however as populous, or as important, as several of the others. It differs from any of the others in its appearance, for its shore is low, and the ascent thence to the centre is gradual, except where the cones of a few extinct craters are seen. In the middle of the island a peak rises, which is almost continually enveloped in clouds, and is the highest land in the group. On account of these clouds, angles could not be taken for determining its height accurately, but it certainly exceeds four thousand feet.

The interior of the island is rarely entered, even by natives, and has never been penetrated by strangers. The only settlements are upon the shore, along which the natives always journey, and there are no paths across it.

The coral reef attached to this island is interrupted to the south and west, where the surf beats full upon the rocky shore. There are, in consequence, but few places where boats can land, and only one harbour for ships.

The soil is fertile, and was composed, in every part of the island that was visited, of decomposed volcanic rock and vegetable mould.

The Porpoise, having taken Dr. Pickering and Lieutenant Maury on board, set sail for Tutuila, for the purpose of joining the Vincennes.

During our stay in this group, we experienced two slight shocks of earthquakes; their occurrence here is not unusual, but there is no account of any damage having been done. Their motion is generally tremulous and horizontal; one, however, has been experienced of a wavy description. They are said by the foreigners often to produce the sensation of sea-sickness.

By the 9th of November the whole squadron was assembled in the harbour of Apia, after having been actively engaged in examining the different islands; but in making surveys of the coasts and harbours, these examinations extended to the shores and reefs, which were all minutely surveyed in boats. The usual observations in astronomy, magnetism, and meteorology, together with full record of the tides, were made and kept. A large amount of information relative to the aboriginal population, their habits, manners and customs, will be given in the following chapter.

On the 10th, the squadron sailed from Apia for New South Wales.

CHAPTER XV.

SAMOAN GROUP.

Geographical Position of the Samoan Group—Its Harbours—Tides and Currents—Its Climate—Size of the Islands—Soil and Productions of the Group—Its Cultivation—Quadrupeds—Birds—Reptiles—Fish—Products available for Commerce—Language of its Natives—Their Diseases—Their General Appearance—Their National Character—Labours of the Missionaries—Native Missionaries—Selection of them for the New Hebrides—Population of the Islands—Religion of the Heathen—Their Idea of the Creation—Of a Future State—Their Omens—Their Superstition—Their Dances—Their Musical Instruments—Their Amusements—Their Births—Their Marriages and Courtship—Their Adoption of Children—Their Burials—Their Mourning—Their Manners and Appearance—Their Dress—Improvement in the Ancient Dress—Tattooing—Their Manufacture of Tapa and Mats—Samoan Canoes—Boat-Song—Houses of the Natives—Their Lights—Their Food—Their Habits—Their Malangas—Their Punishments for Crimes—Their Wars—Their Olos—Their Peace-making—Classes of Samoan Society—Allotment of Lands—Mode of Government—Descent of Chieftainship—Ceremonies at the Fonos.

The Samoan Group lies between the latitudes of 13° 30′ and 14° 30′ S., and the longitudes of 168° and 173° W. The islands, as has been seen, agree in the general character of being of volcanic structure, and having coral reefs; differing, however, in the modifications of these formations, which have been from time to time described. The harbours are usually situated within the reefs, but Tutuila is an exception to this rule, by the possession of the deep land-locked basin of Pago-Pago. This is, of all the ports, the one best adapted for the refitting of vessels; but Apia, in Upolu, is not so difficult of egress, and in consequence of its proximity to the fertile district of Aana, the most convenient for vessels seeking only a temporary anchorage and refreshment.

The approach to Pago-Pago, and the other harbours of the Samoan isles, is not difficult; and as the soundings extend in some places for a distance beyond the reefs, vessels may drop at anchor in case of necessity.

The flood tide among these islands sets to the westward; beyond its influence, on the southern side of the islands, a current generally prevails to the eastward, while it runs westward on their northern side. Vessels, therefore, when beating to windward, would find it to their advantage to keep on the southern side of the group, where there is not only a favourable current, but where the winds would be found more regular, and calms less frequent.

The climate of these islands may be termed variable, and there is much bad weather, particularly during the winter months, when long and heavy rains, attended at times with high winds and

northerly gales, are frequent. Destructive hurricanes also occur, and of these one is still recollected which blew down the bread-fruit trees, and destroyed many of the houses.

The air is more moist than that of the Society Islands, and the vegetation in consequence more luxuriant. Thunder and lightning are often experienced, but during the summer months light winds and calms are the prevailing characters of the climate.

Some of our gentlemen made the remark, that, to judge from the time at which the bread-fruit was gathered, there must be a great difference between the seasons of this island and Tahiti; for when we arrived at Tutuila, that product was ripe and in abundance, although when we left Tahiti, only a few days before, it was unripe and not to be had. The same remark was made in relation to the vi-apple (Spondias dulcis). But, by comparing the voyages of Cook and Wallis, it would appear that the time of the year at which the bread-fruit is in season at Tahiti is not constant, for both these navigators found it in perfection, although they visited that island in different months. If there be a difference between the time of the ripening of the bread-fruit in the Society Islands and this group, the greater moisture and higher mean temperature of the Samoan climate will account for it.

The islands of the Samoan Group contain one thousand six hundred and fifty square miles, which are divided as follows, viz.:

Savaii	700
Upolu	560
Tutuila	240
Manono	9
Apolima	7
Manua	100
Oloosinga	24
Ofoo	10

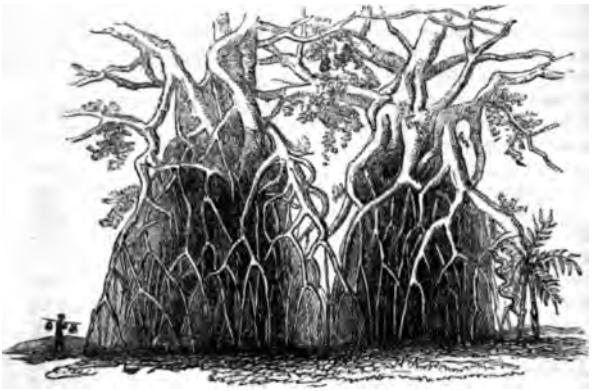
The soil of all the islands is rich, and arises chiefly from the decomposition of volcanic rocks. At Tutuila, it was remarked that the vegetation was luxuriant, and the trees of large growth. At Upolu the forests seemed more sombre than those of Brazil, although the same kind of growth appeared to prevail.

The trees do not branch out until near the top, which renders it difficult to obtain botanical specimens. The trunks are covered, and even the summits of the trees sometimes overgrown, with the leaves of the scandent Flagellaria (Freycinetia), a climbing Piper, and other vines, as Hoyas, Convolvulus, &c. The lower part of the trunks are enveloped with ferns, of which there are many varieties, and with some species of Pothos, which give the whole ground a matted or woven appearance.

The woods in the interior of the islands are very thick, and often composed of large and fine trees; among them are tree ferns, a species of banyan (Pandanus) and several species of palms. Among other plants a species of Cerbera was observed, with beautiful clusters of large and odorous white flowers, which yielded a quantity of white viscous sap, that our botanist, Mr. Rich, thought might be

manufactured into caoutchouc. On the whole, the species of trees are much more numerous than at Tahiti, and the vegetation in consequence richer and more varied. The woods, however, are not enlivened by showy flowers, and the few of these that are seen are of a white or grayish hue, which is to be ascribed to their being but little exposed to the rays of the sun, in consequence of the umbrageous foliage. Many of the flowers seen on the ground were unknown to our botanist, as were several fruits.

Among the trees which have been named, that which struck us as most remarkable was the species of banyan (Ficus religiosa), called in these islands, Ohwa. Some of these were seen, whose pendent branches had taken root in the ground to the number of thousands, forming stems from an inch to two feet in diameter uniting in the main trunk more than eighty feet above the ground, and supporting a vast system of horizontal branches, spreading like an umbrella over the tops of the other trees.



OHWA TREE.

The bread-fruit is the most abundant of all the trees, and grows here to a large size; the vi-apple, the cocoa-nut, and the wild orange are also found in great numbers; and at Tutuila a large lime-tree was seen in full bearing, which was said to have been planted before the arrival of the missionaries.

Among the most singular of the vegetable productions is the stinging-tree, of which the natives are much afraid; for if its leaves be touched, an eruption is produced, particularly if the skin be wet. Its leaf is cordate, but quite smooth.

The arborescent ferns are not as numerous as at Tahiti, but grow to a larger size. The palms give a character of luxuriance to the country, from the variety of their foliage. Rattans ninety feet in length were seen running over the trees.

Bamboos and the wild sugar-cane were very common; the latter is used in thatching houses; the wild ginger also abounds.

Of the wild nutmeg (Myristica), two species were seen, which are small trees, and are likely to be passed without notice, were it not for the peculiar manner in which branches grow out of the trunk, which is in whirls, at regular intervals, like the white pine (Pinus strobus) of our Northern States.

It was remarked that the character of the vegetation approached more nearly to that of the East Indies than of the Society Islands, and the leafless acacias were the type of those we afterwards saw in New Holland; but there are some plants which appear peculiar to these islands.

Many of the trees we have named, as well as other plants, are objects of cultivation; but the ground cleared for this purpose does not extend far from the coasts, near which all the villages are situated.

To clear the land, the bark is burnt off the trees, after which they are permitted to stand until they become dry, when they are cut down and used as fuel.

The cultivated plants and trees are bread-fruit (of which they have twenty varieties), cocoa-nut, ti (Dracæna), bananas, taro, paper-mulberry, tacca, from which arrow-root is made, and of which they have several sorts; sugar-cane, which is not made into sugar, but used only for thatching; coffee, ava (Piper mythisticum), sweet potato, pine-apple (Anana), brought by the missionaries from the Society Islands, yams, the papaya, and tobacco in small quantities. The agave has not been introduced; but in a few years lemons and sweet oranges will be produced in great quantities from trees which have recently been planted.

To the cultivation of the tacca they pay little attention, yet the quality of the fecula (arrow-root) made from it, is said to be superior.

The missionaries are endeavouring to teach the natives the best mode of cultivating the sugar-cane and manufacturing it, and it is said that a few persons have adopted the new methods. At present they find a substitute for sugar in the root of the ti plant, which is baked in ovens, and yields a large quantity of saccharine juice resembling molasses.

Great attention is paid to the cultivation of the yam. They are planted in October, and are ripe in February and March. The vines run up the trees, and when they die, the root is known to be ripe. To plant them, they are cut, like the potato, into pieces containing eyes, which are laid in heaps and covered up until the sprout appears. The pieces are then set out at distances of about three feet from each other.

Hearing that there were some extensive savannas in Upolu, overgrown with the wild sugar-cane, at the east end of the island, a party visited it, but they saw nothing of the kind, except a few small patches of that plant.

There are no traces among these islands of any native quadruped, nor any other of the mammalia, except a species of bat (Pteropus ruficollis), which is very destructive to the bread-fruit. Swine have now become abundant, and the missionaries have introduced cattle,

which are rapidly increasing, and will in a few years be in sufficient numbers for the supply of vessels. Horses have also been brought to the islands.

The first large quadruped ever seen by these islanders was a mule. With it they were much astonished, and it was considered so great a curiosity, that it was carried around the island of Upolu for the purpose of gratifying the natives with a sight of it. They gave it a name, signifying—the hog that travels over the ground.

Poultry of all descriptions is plentiful, and pigeons abound, which, however, are considered sacred, and not used as an article of food. Of the latter bird (Columba oceanica), between sixty and seventy specimens of different varieties were obtained: but it is remarkable that of all these, none were the same as those found in the Society Islands. There are but few birds of game, and none of the hawk genus. A philomel was pointed out by the missionaries as the principal singing bird, and the woods of Tutuila were filled with warblers. The note of the philomel, although much praised, did not appear agreeable to me.

The pigeon is commonly kept as a plaything, and particularly by the chiefs; for this purpose they are fastened to a stick by a thread about twelve feet in length. They are taught to fly from, and return to, the stick, and when well tutored to this feat, the possessor of the bird exhibits it with much pride and satisfaction. One of our officers unfortunately on one occasion shot a pigeon, which caused great commotion, for the bird was a king-pigeon, and to kill it was thought as great a crime as taking the life of a man. The people were not to be pacified until the interpreter told them that the officer belonged to "man of-war," which intelligence, together with a small present, satisfied them, and the matter was settled.

To justify their regard for them, we were told that when the inhabitants of Aana were driven away, about eight years since, by the people of Manono, the pigeons abandoned the district, but that upon their return to their homes, the pigeons again made their appearance in their former abodes.

Snakes were found in Upolu, and sea-snakes are reported to have been seen off the islands.

Fish are taken in the neighbouring waters in great abundance and variety. Besides other modes of taking them, they are caught on the reefs by women, who place baskets near the holes where they are accustomed to take shelter. They are also speared by torch-light, and taken in deep water by the hook. Among the sea-fish, mullets are very numerous, and are frequently seen leaping from the water in immense shoals.

One of the modes in which fish are caught by the Samoans was witnessed at Samatau. About a dozen canoes formed themselves into a ring, around what appeared to be a dark circular spot in the water, about six feet in diameter, and which was moving along with a slow and unequal motion. This was a shoal of the small fish called lou, which is about two inches in length. The shoal being thus surrounded, the circle of canoes was gradually lessened, until

the fish, finding themselves enclosed on all sides, ceased to move forward. At this moment the head-fisher, who was seen standing up in the canoe with a net in his hand, threw it dexterously over the shoal, upon which all the other men dove at once from the boats, and remained for several seconds under the water, where they secured the sides of the net. On reappearing, all regained their canoes except four, who remained to take charge of the net, which, with its prize, they conveyed to the chief.

These islands furnish abundant supplies for the refreshment of vessels, but as yet there are few articles which can be rendered available in foreign commerce. Tortoise-shell, of which a little has at times been procured at Savaii, cocoa-nut oil, and arrow-root, are nearly all that can be procured in quantities beyond the immediate wants of the visitors. Caoutchouc, gum-arabic, castor beans, orris-root, ginger, and coffee, might however, be easily added to the list of exports. In return for what they can furnish, the natives now look to objects of real utility; beads, jews-harps, &c., once so much in request, are now scarcely prized; and cotton cloth, writing-paper, and hardware, particularly needles, and other small articles of utility, are the kinds of manufactured goods which are most sought after.

The Samoan language is soft and smooth, and is the only one of the Polynesian dialects in which the sound of s is found. The letters that the missionaries have found necessary to adopt in order to write it, are only fourteen in number, viz., A E F G I L M N O P S T U V. In attempting to sound the words of other languages, they use L, instead of R, S for H, and P instead of B. The G has a nasal sound, as in *ong*.

It has nearly the same construction as the Tahitian; nevertheless the Samoan is far from being understood by the natives of the Society Islands. The Samoans say that they never can acquire it—"their jaws are too stiff." The missionaries also have great difficulty in speaking it, and are liable to make many mistakes which appear absurd to the natives.

We have seen that it possesses the sibilant sound of s, and every one of the words terminates with a vowel.

A separate dialect is appropriate to the chiefs, all of whose actions, the parts of their bodies, &c., have different names from those of the common people.

Many of the Samoans reach the age of seventy or eighty years. There is, however, a great mortality among the young children, which is probably owing to their exposure to the weather. Those who survive grow up robust and healthy.

Among the diseases which afflict the adults, one of the most usual is a spinal affection, which results in caries and produces humpback. This is no doubt owing to the peculiar manner in which the children are carried. Catarrhs and bronchial disorders, occasioned by the exposed life of the natives, are prevalent, and a white resident died of phthisis during our stay. The dysentery, as an epidemic, is unknown, but sporadic cases of it occur, occasioned by imprudence in diet.

There is an eruptive complaint, called ilamea, which covers many of the children under the age of ten years with sores, and which seems more particularly to attack the face and head. The mode in which it is treated is singular: the child is rubbed with the husks of the cocoa-nut, until all the scabs are removed; a soft preparation of the bread-fruit is then applied, after which they are washed. This operation is undergone every time they bathe, which is daily. When the bread-fruit is not in season, a decoction of the husk of the cocoa-nut is used in its place.

The elephantiasis prevails to a great extent among men who are past the middle age; and some of the cases are truly frightful. There are also many instances in which women are affected by it. It does not appear to cause the least degree of pain. Among the reasons that have been assigned for the frequency of this disease are, the habit of eating their food without salt, and the use of cocoa-nut water; to which may be added exposure at night, and want of sufficient exercise. The latter cause, whether it be capable of producing this disease or not, unquestionably exists; for they are in the habit of sitting for hours with their legs bent under them, which must cause a stagnation of healthy circulation. Laziness, however, cannot be ascribed to them as a part of their national character, for they are disposed to exertion, and willing to be employed. When, therefore, they have received sufficient instruction, and civilisation has taught them new wants, they will probably become an industrious and thriving people.

Ophthalmia, which is supposed to arise from the reflection of the sun from the sandy beaches near which all their villages are built, is so prevalent, that, to speak within bounds, not less than a fifth part of the population is affected with it.* In most cases it was observed to begin on the inner corner of the eye, whence it extends gradually over the pupil, until the sight is completely lost. As the disease advances, the thickness of the film increases, and when it has covered the eye, that organ becomes enlarged and appears to project. From appearances it would not be difficult to remove the film, and thus cure the disorder; but the natives have not made any attempt of the kind. Several cases of total blindness arising from this disorder were seen.

The venereal disease does not exist at Tutuila, and is hardly known in the other islands. This serves to prove how great a superiority this island possesses over Tahiti in the chastity of its females, who in general observe their marriage vow with strict fidelity.

Fevers are rare, and those of a remittent and intermittent type are unknown; in fact, the geological formation of these islands is by no means favourable to the generation of the miasmata that cause them.

Among the few curative means that the natives do employ is a sort of shampooing. This is performed by rubbing the body and

* It is so common at Savaii, that at least one case of blindness, in one or both eyes, is to be seen in every family.

limbs with the hands, at first gently, and gradually more and more roughly. These manipulations are applied as a restorative after fatigue, and to alleviate pain. For the former purpose they are effectual, and often abate, if they do not remove, the latter.

Among all the Polynesian islanders, the men of Samoa rank, in point of personal appearance, second only to the Tongese; and many specimens of manly beauty are to be seen among them. As much cannot be said of the women, who are rather ill-formed and stout. When very young, however, some of them are pretty, and their colour is light, being little darker than that of a brunette or South American Spaniard. The girls are lively, have a good expression of countenance, and, what is rare in Polynesia, have some degree of bashfulness.

The average height of the men is five feet ten inches, and some of the chiefs, whose limbs are well rounded, would be called fine-looking men in any part of the world. Their features are not in general prominent, but are well marked and distinct, and are all referable to a common type. The nose is short and wide at the base; the mouth large and well filled with white and strong teeth, with full and well-turned lips; the eyes black, and often large and bright; the forehead narrow and high; and the cheek-bones prominent. It was observed that some of them had the eye turned up at the outer corner like the Chinese. Of beard they have but little, but their hair is strong, straight, and very black; instances, however, were observed, where it had been turned to a carroty red, by washing it with lime-water for the purpose of destroying the vermin (Pediculus humanus).

When the islands were first visited, the natives were represented as ferocious and treacherous. This arose in a great degree from the bloody conflict they had with the boats of La Perouse's squadron; and the opinion was kept up by the just resentment they in some cases manifested for wrongs committed on them by lawless visitors. The instance of Opotuno, however, shows that this idea of their character is not entirely without foundation. Viewed in a more favourable light, they are, as we found them, kind, good-humoured, intelligent, fond of amusements, desirous of pleasing, and very hospitable. Both sexes show great kindness and love for their children, and age is so much respected that only old men are admitted to council. As a shade on this picture, they are indolent, covetous, fickle, deceitful, and little reliance can be placed upon them. To illustrate these features of their character: the first question asked when a chief receives a visitor is, "What present will you take?" for they consider it incumbent upon them to bestow some token of regard, and a neglect to offer it would be indecorous. This custom was always complied with, when any of our officers visited them; and although it was evident they did not wish to part with anything valuable, their choicest possessions were exhibited as if for the choice of the stranger. On the refusal of their offered presents, great joy was always to be observed in their countenance and manner, showing that they rejoiced in an escape from loss, while

they had at the same time performed the prescribed rites of hospitality. This risk being over, they were too happy to supply us with cocoa-nuts and fruits. In spite, however, of the apparent liberality with which these were furnished, they do it in expectation of a full return. In pursuance of this hospitality, it is the custom when a stranger passes through a village without showing an intention to stop, to follow him and offer food.

The Samoans are usually very inquisitive, and it was amusing to excite their curiosity. Among other things mentioned for the purpose was, that white men often wore false teeth and wigs. The latter practice, in particular, seemed strange to them, and they called it "thatching the head." A terrestrial globe was also shown to some of them, whereon the position of their islands and their small relative importance was pointed out. This excited great surprise, for until within a few years they had no idea that there was any country except their own.

If the chiefs are liberal in their tenders of presents to their visitors, they on the other hand do not hesitate to ask for whatever they see. They may, in fact, be styled sturdy beggars. One of the most persevering in his mendicancy was no less a person than Vavasa, the proud and overbearing chief of Manono. They usually began with begging from the humblest individual, and ended with the highest; and when they had obtained all they could, would go over the side of the ship ridiculing our folly for giving so much.

Old Pea, by way of excusing himself, when charged with being a great beggar, said he did not keep anything he got for himself; that it was the Samoan fashion always to ask for everything he saw. It mattered not if his request was refused, he was as content as if he obtained what he desired, but he said he should have blamed himself if he had not asked.

The beneficial effects of the labours of the missionaries are more evident among the Samoans than at Tahiti. The spread of the gospel has not been opposed by evil habits of the same inveterate character, and the natives of this group have been more easily reclaimed from their vices than those of the Society Islands. The greatest obstacle to the success of the missionaries has arisen from the presence of a few abandoned white men, who attach themselves to the heathen chiefs. Their opposition, although injurious to the missionary cause, yields little benefit to themselves, for of everything they acquire, the chief, under whose protection they are, takes half; and although no opposition is ever made to their departure from the islands, they are not permitted to take anything with them. The vices of these men excite the disgust of the more well-disposed of the natives, who often express their astonishment at their ignorance of sacred subjects, and ask if it be possible that such men can have been brought up in a civilised community. The first attempt to introduce Christianity is related to have occurred in the following manner. Some years before the arrival of the missionaries, a vessel was wrecked upon the island of Upolu, and her cargo seized upon by the natives, many of whom, even to

the present day, regret that they did not then understand what riches were placed at their disposal. Their mode of treating the prize was farcical in the extreme ; pipes were made out of candlesticks, clothing was thrown away as valueless, and many injured themselves with the fire-arms. The crew were well treated and fed for a long time, although the natives were greatly astonished at the quantities of pigs required for their support, and entertained fears lest they should breed a famine in the land. The captain advised his crew to turn missionaries, and set them the example himself. He met with much success, and succeeded in building several churches, until, upon the arrival of the English missionaries, he was compelled to relinquish his assumed occupation. It is not probable that even the captain was deeply versed in religious knowledge, and very certain that the crew could not have been; but their success appears to have arisen from the great veneration with which white men were at first regarded by the Samoans. They looked upon them as a sort of spirit, whom it was impossible to hurt or kill ; and the ships first seen off the coast were considered as heavenly messengers, prognosticating some dreadful calamity. The bad conduct of their nautical visitors has destroyed this reverence, and foreigners generally no longer meet the kind welcome they formerly received. This observation does not apply to the missionaries, who receive all the honour that is due to their good intention, of which the natives are fully aware.*

The Wesleyan missionaries, and those of the British Board reached these islands about the same time, or the former were perhaps the first to arrive. The influence of the Wesleyan tenets, and the number of their followers, increased rapidly under the superintendence of the Rev. Mr. Turner. Difficulties, however, arose between the two parties of missionaries, which were finally adjusted between the two boards in London, and the Wesleyans abandoned this field for that of the Feejee Group. This arrangement was amicably made, and I heard of only one individual on either side who showed an uncharitable spirit towards his fellow-labourers of the other party. In spite of the removal of the Wesleyans, there is still a large number of the natives who adhere to the tenets and forms taught them by Mr. Turner, and still retain a strong attachment to him.

The missionaries were from the very first taken under the protection of the most powerful chiefs, and have never received either insult or injury from any of the natives. They have established schools in many of the villages, but have found a difficulty in obtaining native teachers.

A printing-press has also been established at Upolu, and rapid progress is making in the translation of the Scriptures, of which some portions are already published. Many publications have issued from this press : among them I regretted to observe a small

* All the natives have some knowledge of Captain Cook, derived from their communication with the Friendly Islands.

tract containing a violent attack upon the Roman Catholics. The sight of this surprised me, as it contradicted the opinion I had formed, from my intercourse with the missionaries, of their liberality and freedom from intolerance. The sole object of the tract was to prepossess the minds of the natives against the missionaries of the Papal Church, in case they should visit these islands. This struck me as being at variance with the first principles of our religion; and I could not refrain from expressing an opinion that the tract was calculated to do much harm.

The labours of the English missionaries have been much aided by native assistants, who have been both industrious and successful; and among them those of Raratonga have the merit of having led the way. They have acted under the direction of Mr. Williams, and he was loud in praise of their exertions. I witnessed a most interesting meeting of these native missionaries, for the purpose of selecting nine from their number to accompany Mr. Williams to the New Hebrides, which has perhaps left a more deep impression on my mind from the melancholy result of that attempted mission.

Great anxiety was exhibited by the candidates; and I have never seen a more proper state of feeling, or listened to more correct sentiments, than were expressed on this occasion. All appeared devoted to their calling, and some appeared quite eloquent. After the choice was announced, those upon whom it had fallen manifested a cheerful but not unbecoming triumph, while the rejected candidates were evidently grieved and disappointed. The former were now invested with new apparel, which, although no more than a striped cotton shirt,* gave them an air of consequence among their brethren, which was amusing to us, who could draw comparisons between this simple garment and prouder kinds of canonicals.

Each of the resident missionaries now delivered a long harangue, which was replied to by one of the selected. The subjects of these discourses were, on the one hand, advice in reference to the duties about to be entered upon, and on the other, a recognition of the weight of the responsibility incurred by the successful candidates.

Most, if not all of those selected for the new mission were fine-looking men, and they were chosen out of many applicants, for their steady habits and strict moral conduct. The term of their engagement on the new duty was three years, after which they were to return to their wives and children.

The extent and influence of the labours of the missionaries may be best understood by a comparison between the whole population of the islands with the numbers of those who have embraced Christianity and attend the schools.

The entire population of the group is estimated at 56,600, of whom 14,850 have embraced Christianity, and 12,300 attend the schools. These numbers are thus distributed:

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* This garment is the only remuneration that they receive during each year from the missionary funds, and with it they feel themselves well requited.

Islands.	Population.	Professors of Christianity.	Pupils.
Eastern Group . .	2,000	150	150
Tutuila	8,000	2,200	1,900
Upolu	25,000	8,000	6,200
Savaii	20,000	4,000	3,700
Manono	1,100	400	230
Apolima	500	100	120
Total . .	56,600	14,850	12,300

The whole number of foreign missionaries is eleven, of whom one resides in Tutuila, six in Upolu, three in Savaii, and one in Manono.

The number of native teachers is one hundred and thirty-eight, of whom five are in the Eastern Group, thirty-one in Tutuila, fifty in Upolu, thirty-six in Savaii, twelve in Manono, and four in Apolima.

Besides those counted, as having actually embraced Christianity, it is said that two-thirds of the whole population belong to the Christian party.

Of those who attend the schools, about ten thousand read, and this newly introduced habit has of course made a very great change in the habits of a majority of the people, but the number of heathen still left is sufficient to furnish an idea of their original manners and customs, which will in a few years be either entirely lost, or so modified by the spread of the gospel, as to change their character entirely. The rapidity with which this change is going on, rendered it desirable to obtain as much information as possible in relation to the pristine manners of this people.

As respects their ancient religion, we have obtained the following particulars of the heathens. They acknowledge one great god, whom they call Tangaloa-lagi, but pay less worship to him than to their war-gods, Tamafaiga, Sinleo, and Onafanua. The first entices them to war, the second leads them to it, and the third is a female goddess, who encourages them to fight.

Mafuie is their god of earthquakes, who was deemed to possess great power, but has, according to the Samoans, lost much of it. The way in which they say this occurred is as follows: One Talago, who possessed a charm capable of causing the earth to divide, coming to a well-known spot, cried, "Rock, divide! I am Talago; come to work!" The earth separating at his command, he went down to cultivate his taro patch. His son, whose name was Tiitii, became acquainted with the charm, and watching his father, saw him descend, and the earth close after him. At the same spot, Tiitii said, "Rock, divide! I am Talago; come to work!" The rock did not open, but on repeating the words and stamping his foot violently, the earth separated, and he descended. Being a young man, he made a great noise and bustle, notwithstanding the advice

of his father to be quiet, lest Mafuie would hear him. The son then asked, "Who is Mafuie, that I should be afraid of him?" Observing smoke at a distance, he inquired the cause of it. Talago said, "It is Mafuie heating his oven." Tiitii determined to go and see, notwithstanding all the persuasions of his father, and met Mafuie, who inquired who he was. "Are you a planter of taro, a builder, or a twister of ropes?" "I am a twister of ropes," said Tiitii; "give me your arm, and I shall show you." So taking the arm of Mafuie, he twisted it off in a moment. Such a practical illustration of his powers soon made Mafuie cry out, "Na fia ola, na fia ola!"—I desire to live, I desire to live! Tiitii then took pity upon him, and let him go. The natives, on feeling an earthquake, exclaim, "Thanks that Mafuie has but one arm! if he had two he would shake the earth to pieces."

The god Salefu supports the earth. They have likewise Mesua, Faana, Tinitini, Lamamau, who are gods of lightning, rain, whirlwinds, &c. These gods are said to reside on an island to the westward, from which quarter their bad weather usually comes.

They had, likewise, many inferior gods, who watched over particular districts. These various gods owned certain animals, reptiles, fish, and birds. In some few districts inanimate objects were worshipped, thus: a branch of bamboo, with a bunch of cocoa-nut fibres tied on the top, was worshipped in Manono. They also had carved blocks of wood and stone erected in memory of dead chiefs, which they worshipped.

The account they give of the creation of their island is as follows:—

Tangaloa, their great god, who lives in the sky, sent down the bird Tuli (a kind of snipe), his daughter, to look what was below. She reported to her father that she saw nothing but sea. Tangaloa then rolled a stone from heaven, which became the island of Savaii, and another which produced Upolu, and the same for the others.

This did not suit Tuli, who returned to ask for inhabitants. He gave her orders to plant the wild vines (fuefue), which, after growing, were ordered by him to be pulled up and thrown into heaps, from which worms were produced. Then it was desirable that they should become human. Spirits were accordingly sent to them by Tuli, and the worms became man and woman.

Their notions of a future existence are quite vague. They believe, however, in a happy future state, where everything good is provided. Some say that it is on their own island, others on distant islands, and for the chiefs at the residence of the gods on Pulotu, an island to the westward. They also believe that the spirit goes there immediately after death; that in these places it never rains; that they eat and drink there without labour, and are waited upon by the most beautiful women, who are always young, or, as a chief expressed it to one of our officers, "whose breasts never hang down."

The spirits, according to their belief, often come down to wander about at night around their former dwellings; some spirits are

believed to die, while others are immortal; some dwell in subterranean abodes, and are eaten by the gods. Some persons believe that after death they become "aitus," or inferior gods.

They believed in many omens, which were carefully watched. If the black stork, called matuu, flew before them on a war expedition, in the direction they were going, they deemed it betokened success; but if in any other direction, it was an ill omen. If a dim moon, or very bright starlight, or comet were observed, it always indicated the death of a chief; and a rainbow was a sign of war.

The squeaking of rats was an unfortunate omen. Sneezing was also considered unlucky; if any one of a party sneezed on a journey, their further progress was postponed.

I was told that the Samoans have a great dread of being abroad in the dark, and that when obliged to pass about their villages by night, they use flambeaux made of the dried stalks of the cocoa-nut leaf to light them on their way. This fear is partly owing to superstition, which makes them fearful of encountering some spirit or aitu, with which their imaginations people the groves, springs, rocks, trees, &c. They are in the habit of occasionally making a feast for the king's aitu, when a number of pigs are prepared, and a quantity of taro, fruit, &c., is gathered. The portion for the aitu is placed near his supposed dwelling-place, and the dependants and others enjoy themselves on the remainder.

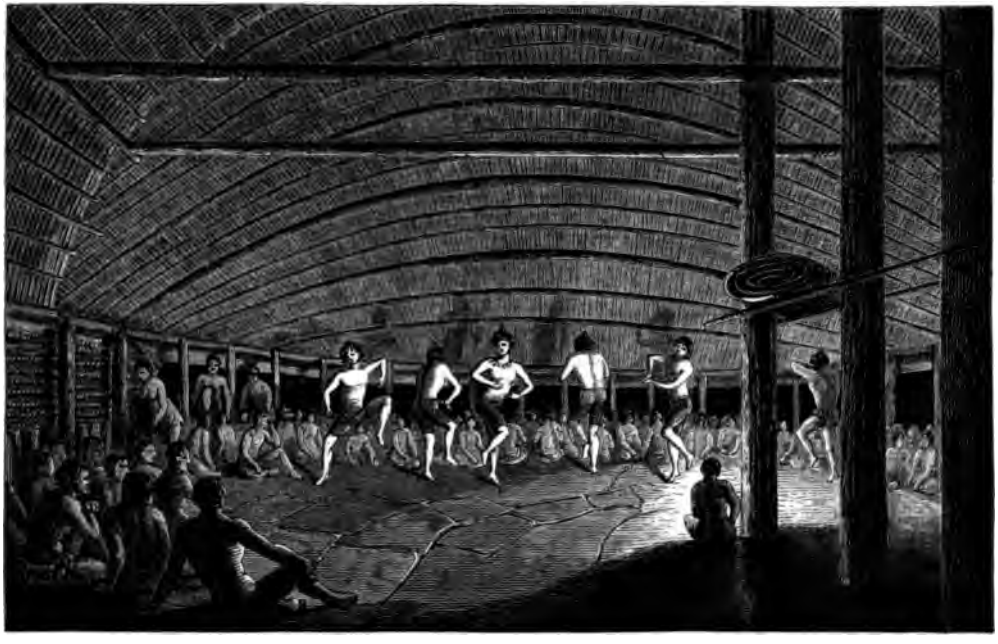
They were formerly in the habit of presenting their first-fruits to the aitus and chiefs. This custom still continues among the heathen, but the Christian party present theirs to the missionaries. The ceremony usually takes place in January or February. In drinking ava, the first cup was always presented to the gods.

There is an account of a large lizard which dwells on the south side of the island, and is worshipped as an aitu. The description given of it makes it two fathoms long, and as large round as a cocoa-nut tree, with huge scales, and a mouth filled with sharp teeth. It is said to dwell in a stream near Safata, into which the natives frequently throw meat. Some of them declare that they have seen him, and that he has dwelt there upwards of fifty years.

It is not remarkable, however, that they should have this tradition; and this circumstance affords an additional proof that they have had frequent intercourse with the Tonga, or Friendly Islands, where a similar tradition is spoken of in Mariner's Tonga Islands.

Among their other superstitions is that of a malignant spirit that resides in the vicinity of Apolima, in the shape of an enormous eel, of from six to ten fathoms long, and large in proportion, which attacks canoes, and drags them down.

A story is told that is said to have happened only a few years ago. While two natives of Manono were swimming across the channel in the reef, they were drowned in the sight of many others; immediately a large canoe was manned, and went in quest of them;



SAMOAN DANCE.

the crew of this canoe encountered the monster, and wounded it. The canoe was upset, and, although a few saved themselves by swimming to the shore, the greater part of them were destroyed. When asked if it was not a shark (of which they have two kinds, the tanifa, or great white shark, and the masi, or small blue one), they replied, it was a monstrous *pasi*, which is the name applied to the murœna, or conger eel.

Their dances and other amusements are in a great degree abolished, but they are still practised in the heathen villages; and even the Christian women may still be induced to exhibit the former, which they call *siva*. The mode of performing it differs from that of the Tahitians, but is, like it lascivious; and neither of them would be called dances in our sense of the term. The dance is usually performed by young girls, who stand up before the audience, throwing their arms, legs, feet, and hands in numerous strange attitudes, which are anything but graceful. The others who are present sing amusing words, in two or three parts, while a third or fourth part is kept up in a coarse grunt or guttural sound, in the bass clef. The words are comprised in short sentences, each of which finishes suddenly with a staccato note, and a violent gesture.

The dance of the girls at Upolu consisted entirely of motions of the body, and was so indelicate as to produce disgust. The chant which accompanied it was sung with a high voice, and three or four women were employed in beating time on the mats with short sticks, in which most of the spectators joined with their hands. In all cases they kept time with the greatest accuracy.

The Samoan drum is made of a part of a tree, hollowed out; they have also an instrument formed of a loose slat fitted into a board, on which they beat time with two sticks. Their flute, if it may be so called, is made of bamboo, as are also their pipes, which resemble those of Pan.

The dances of the men are by no means indecorous. Those who perform them vary in number from two to a dozen, and are divided into two parties. These parties alternately advance and retreat, which gives an appearance of animation. Clapping their hands, swinging them to and fro, or clasping them over their heads, they follow each other in a circle, leaping up and down, and turning suddenly round, keeping time to the music. The dances continue a considerable time, and end with a sudden clap of the hands and a simultaneous shout.

The song is usually extemporaneous, relating to some recent occurrence. The following is a translation of one of them:

The Papalangi has come to Samoa,
The Papalangi has come to Vaiusu,
Let us all go down to the spring.
The Papalangi is fond of the Siva.
Where is the pig? Where is the fattened fowl?
The Papalangi cannot join in the Siva.
Kindle up a bright blaze! Where are the Virgins?
I am going to get some cocoa nuts.
Look at this Samoan, how finely he danceа!

These dances are usually performed in the fale-tele, where strangers are entertained. The inhabitants and their guests occupy different ends of the building, and alternately keep up the dancing and singing. Through the latter all the news is made known, occurrences related, and inquiries made and answered.

Besides these dances, there are various games. One of these, called lupe, is played by two persons, who sit opposite each other. One of them presents his closed fist to his opponent, and then rapidly holds up one, two, three, or all the fingers and the thumb, striking the back of his hand on the mat at the same time. If his opponent fails of instantly holding up a like number of fingers, he loses a point, and ten points finish the game.

Lafo litupa is also played by two persons, who place about fifty beans of the Mimosa scandium before them; then taking up four at a time, they throw them up in the air, and catch them on the back of the hand; the player who catches a hundred soonest is the winner.

Tuae-fua: this is played by five or six persons. It resembles the sport of the Chinese jugglers with iron balls. The first player sometimes takes as many as eight oranges, throwing them successively into the air, and endeavours to keep the whole in motion at once. They are very dextrous at this; if they miss three times the game is lost.

Tui-muri affords the natives much amusement. Any number of persons may play at it. They seat themselves in a circle, and divide into two parties. An orange is suspended from above, about two feet from the ground, and each person is supplied with a small sharp-pointed stick. The orange is swung round, and as it passes, each one endeavours to pierce it, some with great eagerness, others quite calmly, and others again with a wary coolness, all of which affords much amusement to the by-standers. The party wins who first succeeds in fairly hitting the orange fifty times.

It is played for mats, trinkets, &c., but more generally for a baked pig, which is eaten when the play is over.

Litia: this is a general sport, sometimes whole villages playing against each other; it is in fact an exercise in spear-throwing. Two parties furnish themselves with light sticks of the Hibiscus tiliaceus, about eight or ten feet long and as thick as a finger. The bark is stripped off, which makes them very light. The two parties arrange themselves in a line, and strive to throw these as far as possible; the party which succeeds in throwing fifty the farthest wins the game. The usual distance to which they are thrown is about forty yards, and one would conceive it almost impossible for them to be thrown so far. A grand feast usually terminates the sport, which the losing party pays for.

Lafe is a game confined to the chiefs, who play it for pastime. Four persons sit at the corners of a mat, ten or twelve feet long, in whose centre is placed another of ten inches square; the persons at opposite corners are partners; each party is provided with five circular pieces of cocoa-nut shells, from two inches in diameter to *half a cocoa-nut*. The first player lays his smallest piece on the

little mat, and his opponent tries to knock it off and leave his own in its place. Each in his turn endeavours to knock his opponent's pieces off. The party which first succeeds in knocking his opponent's pieces off one hundred times, wins the game. The pieces of cocoa-nut are finely polished and carved with a variety of devices.

There is no ceremony at births, or indeed any inconvenience. The mother generally proceeds immediately to the spring, bathes and washes her infant, and at the same time her usual occupations are resumed. The naming of the child frequently takes place some time before its birth, for sex makes no difference in the names, which are given indiscriminately to males and females.

The mothers often suckle their children until they are six years old; and I was told of an instance where a woman gave nourishment to three children of different ages at once, the eldest removing the youngest sometimes by force from the mother's breast.

It is their practice to wash the children frequently in the fresh-water streams.

When a native wishes to get a wife, the consent of the chief is first obtained. Then he takes a basket of bread-fruit, and offers it to the girl of his choice. His suit is considered as accepted if she partakes of it. He must then pay her parents a certain price for her, which varies with the station and ability of the parties. A chief's daughter is valued high, viz.: at half a dozen hatchets and as many fathoms of cloth.

Another mode of courtship is to go to the house of the object of attachment or desire, and be entertained. If the family show a friendly feeling towards the young man and eat with him, his addresses are favourably received. The formal offer is made by a large present to the family of the female, which, being accepted, the match is made, and if refused, the courtship is at an end. The parents expect their children to abide by their decision. The Malo party have been in the habit of taking wives from their conquered enemies when they thought proper. At a marriage ceremony, a great feast is made, particularly if it be a chief's.

A man is at liberty to repudiate his wife and marry again on certain conditions, but the woman cannot leave her husband without his consent.

Adultery was formerly punished with death, and is very seldom committed. Among single women, intercourse with a Samoan before marriage is a reproach, but not with transient foreigners.

It is a common practice for parents to make a present of their children to chiefs or others, who adopt the child as their own, and treat it ever after as such. After it is grown up, one-half of its earnings goes to its adopted parent. This custom gives the chiefs many adopted children of both sexes, who continue to live with them, and are in all respects treated as their own; and spreads their connections far and wide.

In their burials at Upolu, they have but little ceremony. The body is enveloped in many folds of tapa, and deposited, as has already been described at Tutuila, with the ti planted around. No utensils, arms, &c., are deposited with the bodies; for, according to their *belief, they* have these things provided for them in their

Elysium. A feast is made for the attendants, consisting of pigs, taro, bread-fruit, &c.; presents are made by all the relatives to the family of the deceased, and if the family can afford it, a small canoe is procured for a coffin. After the body has lain in the grave some time, they take up the skull and place it in a box in their houses. The reason assigned for this is to prevent their enemies from possessing themselves of it, for it was a custom in their wars to violate the sanctity of the grave. We heard that a few of the bodies of chiefs had been preserved by oil and heat; and the missionaries informed me that they had seen the bodies of those who died thirty or forty years before, preserved in this manner.

Their mode of showing their grief is to burn themselves to blisters (forming indelible marks), with little rolls of twisted tapa, which, on being lighted, soon produce a coal. They also scratch their bodies. The females are said (in token of affliction for deceased friends) to have pricked holes in the corpse, and sucked out the fluids. All these practices may now be said to be passing away, and are almost obliterated.

There is already a very great difference, not only in dress, but in appearance, between those who have adopted Christianity, and those who adhere to heathenism. The latter have a wild look, to which their long hair, tied in a bunch behind, adds not a little; and when going to war, they let it hang down in confusion, which increases their savage appearance.

On the other hand, the Christians crop their hair short—a fashion introduced by the missionaries.

The hair of the children is cropped close, except a lock on each side of the head. The manners of the people in the Christian and heathen villages are as different as their appearance. In the latter no schools are seen, nor any of the incipient marks of civilisation. Their reception of strangers in the Christian villages is always kind and hospitable, although, as has been stated, a return is looked for. Among the heathen, the manner of reception cannot be counted upon with certainty, for they at one time welcome their visitors with cordiality, and at another are rude, insolent, and anxious to obtain all the strangers possess. When in good humour, they entertain their guests with the lascivious dances we have described, performed by native girls. Their whole manner and conduct are so different from those of villages within a short distance of them, that the effect produced on the latter by the instruction of the missionaries appears almost miraculous.

DEVIL MAN.

In the heathen villages, the dress of the Samoans is to be seen in its primitive simplicity. It is no more than the titi, which is a short apron and girdle of the leaves of the ti (Dracæna), tied around *the loins* and falling down to the thighs. The women besmear

themselves with cocoa-nut oil mixed with turmeric, which gives them a shining yellow tint, that is considered as a beauty; on each breast is a spot of reddish brown, of a singular shape, and of various sizes, from that of a dollar to that of a dessert-plate. They do not show the least sign of feminine bashfulness, while those of the Christian villages cover their bosoms, and exhibit as much modesty as those of any country.

During the last ten years, the dress of the natives has undergone much change; the titi has been increased in length, and extends all round the body; it has a neat and pretty effect when first put on, but requires renewing often, as the leaves wilt in a few days; this garment is well adapted to the climate, being cool, and the necessity of frequent change insures cleanliness.

The Wesleyan missionaries from the Friendly Islands have introduced the siapo, of Tonga, which has now come into common use. It is soft, pliable, and not glazed, and is principally used as a wrapper, after the manner of the pareu of the Tahiti islanders. A piece of cotton cloth is usually worn by the chiefs as a siapo.

The maro is worn when engaged in active exercise, or in war, as being less cumbrous. The women often wear a beautifully white shaggy mat (ie sina), hanging from the neck to the feet. It is woven by hand from the fine threads of the hibiscus; they also sometimes wear wrappers of the siapo form, and the tiputa, a kind of poncho, of the same material, after the old fashion of the Tahitians, which is more becoming than the loose gown introduced into that island by the missionaries.

There is another kind of mat, of very fine texture, worn on great occasions, and used in their dances as a kind of cloak. It is ornamented with a border of red feathers. This is the most valuable property they possess, for they cost much pains to the manufacturers, and are often a year or eighteen months in their hands.

In the way of ornaments they use but few. The men usually wear a shell (the ovula) suspended around the neck by a string.

Tattooing, if not in reality, at least in appearance, may be said to form a part of dress. It is performed by persons who make it a regular business. The age at which it takes place is from fourteen to eighteen, and is usually considered the initiation to manhood. The usual colouring matter is obtained from the kernel of the candle-nut. Tattooing is here called ta-ta-tau, and is tastefully drawn. The natives are very fond of it. It is expensive to the family, for the operator always receives a high price for his labour, consisting of the finest mats, siapo, and other property, as agreed upon before the operation is begun. The instrument used is made of bone, sharp, like the teeth of a comb, and requires but a slight blow to enter the skin. The part tattooed on the males is from the loins to the thighs, but the women have only a few lines on their hands and bodies.

Their hair formerly occupied much of their attention, as it does still that of the heathen, who, as has been seen, wear it long, and have it nicely combed and twisted up in a knot on the top of the head. The females frequently used to wear a wreath of flowers,

which gave them a picturesque and pleasant appearance; but the use of flowers as ornaments has been interdicted by the missionary teachers.

The articles of which their dress is composed are manufactured by the females, who are exceedingly industrious. The common cloth, or tapa, is made of the inner bark of the paper mulberry, which is cultivated for the purpose in nurseries. It is cut when the stem is about one and a half inch in diameter; the inner bark is separated and washed in water, which deprives it of some of its gum; it is then beaten until the adhesion of the fibres forms many of the strips into a single mass. The mallet used for this purpose is about two inches square, and about fourteen inches long, with a handle at one end; two of its faces are grooved, and the other two smooth; the bark is laid on a board, and struck with the mallet in a direction at right angles with its fibres; the grooved sides are used to spread out the fibres, and the smooth ones to knit them together. The groves also give a thready appearance to the surface.

This method differs from that practised at Tahiti, where the bark is beaten with a smaller mallet upon a spring-board; and the tapa made here is of inferior quality. The tapa is often printed with colours in patterns. This is performed in a mode similar to that practised in Europe before the introduction of copper rollers. Instead of engraved blocks, they form tablets, about as thick as binder's boards, of pieces of large cocoa-nut leaves, by sewing them together. One side of the tablet is kept smooth and even, and upon this cocoa-nut fibres are sewed, so as to form the required pattern, which is of course raised upon the surface of the tablet. These tablets are wet with a piece of cloth well soaked in the dye, after which the tapa, which for this purpose is well bleached and beautifully white, is laid upon them and pressed into close contact. The dye is made from herbs and roots, and is of various colours.

The women also manufacture the mats. Some of these have been mentioned in describing the dress of the natives: the finest kinds are made of the inner bark of the paper-mulberry; those of coarser texture of the leaves of the pandanus, which are nicely scraped and bleached. The mats are all made by hand, and by interlacing the fibres; one of the finest description will require the industrious labour of a year.

Among the mats are some of as fine a texture and as soft as if made of cotton. These are rarely or never manufactured at present, and are solely possessed by the chiefs, in whose family they are handed down from father to son, as heir-looms. They are considered as their choicest treasures, and are so much coveted that wars have been made to obtain possession of them.

There are several distinct trades among the men besides that of tattooing; among the most esteemed is that of canoe-building, in which there is no little skill displayed.

The usual fishing-canoe is made of a single tree, with a small outrigger to balance it. They have no large double canoes, such as are seen in Tonga and Feejee.

The largest canoes are from thirty to sixty feet long, and capable

of carrying from ten to twelve persons. They are formed of several pieces of plank, fastened together with sennit. These pieces are of no regular size or shape. On the edge of each plank is a ledge or projection, which serves to attach the sennit, and to connect and bind it closely to the adjoining one. It is surprising to see the labour bestowed on uniting so many small pieces, where large and good planks might be obtained. Before the pieces are joined, the gum from the bark of the bread-fruit tree is used to cement them close and prevent leakage. These canoes retain their form much more truly than one would have supposed, and I saw few whose original model had been impaired by service. On the outside, the pieces are so closely fitted as frequently to require close examination before the seams can be detected. This perfection of workmanship is astonishing to those who see the tools with which it is executed. They are now made of no more than a piece of iron tied to a stick, and used as an adze. This, with a gimlet, is all they have, and before they obtained these iron tools, they used adzes made of hard stone or fish-bones. These canoes are built with a deck forward and aft. They are long and narrow, and their shape is elegant. They are paddled by natives, who sit two abreast, and are guided by a steersman. The seat of honour is on the forward deck, in the centre of which is a row of pegs, to which the large white ovula shell is attached by way of ornament. The natives find no difficulty in occupying this place, as they manage to sit in almost any position with ease to themselves; but a stranger who attempts it, and is for any time confined to one of these places of honour, will repent of the distinction he enjoys before many minutes are over. One of our gentlemen was treated with this distinction, and will long recollect the words of the song they sing.

> "Lelei tusilava le tau mua,
> Leango tusilava le lau muri."
>
> "Good above all is the part before,
> Bad above all is the part behind."

The uneasiness, from his account, does not only proceed from the small place left to sit upon, but also from the constant apprehension of being precipitated into the sea. This faa Samoa, or Samoan fashion, is anything but agreeable.

Having both a prow and stern, these canoes cannot be manœuvred without tacking; consequently the outrigger, that constitutes their safety, is, in using their sail, alternately to leeward and windward, and does not, when to leeward, add much to the stability of the canoe. They carry less sail than the canoes of the other natives of Polynesia; and to guard against the danger of upsetting, the natives rig a sprit or boom (suati), projecting from the opposite side to that on which the outrigger is fitted. This boom is secured with guys to the top of the mast. When the wind blows fresh some of the men go out upon it, and thus balance or counteract the force of the wind. Those on the other side of the canoe are kept ready to go out on the outrigger when that becomes necessary. The sail is made of a mat

of a triangular shape, with its apex below; some of these are ten feet high.

None of the canoes we saw at the Samoan Group are calculated for long voyages. Those used in their intercourse with the Tonga Islands are the large double Feejee canoe, of which I shall speak when I treat of those islanders.

In their trips from town to town, they are generally on parties of pleasure, termed *malanga*, and are frequently to be met with singing their boat-songs.

These songs have but little variety, are destitute of melody, and have small pretensions to harmony. They consist, for the most part, of two short strains, repeated alternately, the first by a single individual, and the second by several. Their voices are loud, and have generally a tenor character; the strains are mostly in the minor scale, and sung in the key of two or three flats.

The work in which the Samoans show their greatest ingenuity, is in the construction of their native houses, and particularly of their fale-teles or council-houses, some of which are of large dimensions. They are built of the wood of the bread-fruit tree, and there are two modes in use: their own, and that borrowed from the Friendly Islands. The true Samoan house is slightly oval; those of the Friendly Islands are oblong. They may be said to consist of three parts, the centre and two ends; the former is erected first. For this purpose the three centre-posts, which are twenty-five or thirty feet high, are usually first raised; on these rests the ridge-pole. A staging or scaffolding is now erected, nearly in the form of the roof, which serves for ladders and to support the roof temporarily. The roof is commenced at the ridge-pole, and is worked downwards. The cross-beams are lashed in at different heights, connecting the centre portions of the roof together, and are fastened to the upright centre-posts. The rafters are made of short pieces, placed at equal distances apart, and form the curve that is required to construct the roof. Between the largest rafters are smaller ones, about one foot apart. Across the rafters are placed and fastened many small rods, about an inch in diameter. The whole is neatly thatched with the sugar-cane or pandanus leaves, and the rafters are terminated by a wall-piece, made of short pieces of wood, fastened together and to the rafters, so as to form the ellipse required for the roof. The end portions, of similar small pieces, are made to correspond to the required curvature of the roof and the ellipse of the wall-plate. Posts are now placed in the ground, about three feet apart, to receive the wall-piece, which is fastened to their tops. There is no fastening used but sennit, made of cocoa-nut fibres. The rafters are generally made of the hibiscus, which is light and strong. The eaves extend about a foot beyond the posts. The smaller houses generally have permanent sides; the larger ones are open all around, but mats are hung up as curtains by the occupants, and any part may be used as a door.

After the whole is finished, the interior has the appearance of an extensive framework, from the number of cross-beams, which are used as depositories for their property, tapas, mats, &c.; and in

some cases the favourite canoe of the chiefs is placed on them. After a full inspection of one of these fabrics, one cannot but view these natives not only as industrious, but as possessing great skill and ingenuity. The thatching lasts four or five years. There is no floor to the house, but the ground is covered with stones about the size of a small egg. There is usually a paved platform on the outside, about three feet wide. In some cases this is raised a foot, and serves to keep the house dry, as the stones allow a free passage to water. On the pavement are laid coarse mats, and the finer ones are spread above, covering about half the area.

These fine mats are rolled up until required. Many baskets hang here and there, with some cocoa-nut shells to contain water, and the ava-bowl. Mats are suspended about as screens. At night, each sleeper is usually supplied with a musquito-curtain, called tai-namu, which, forming a kind of tent, by being passed over a ridge-pole or rope, and falling on the ground, answers all the purposes required.*

On one, and sometimes on both sides of the centre post of the houses, is a small circular hearth, enclosed by stones of larger size; this is the place for burning the dried leaves of the cocoa-nut, which serve them for light at night. Although these do not give out much smoke, yet, as they burn for a long time, the house gradually becomes filled with soot, for there is no outlet above for its escape.†

As they always use the flambeau to light them on their return from their feasts, it produces a singular and pretty effect to see an assembly breaking up, and the different parties winding through the groves with torches, throwing the whole into bold relief. A rude lamp is also used, made of a cocoa-nut shell, with a little oil in it, and a piece of vine-stalk for a wick, and likewise the nut of the Aleurites triloba, or candle-nut, several of which are strung on a thin stick.

Many whitewashed houses are now to be seen, for the natives have been taught the use of lime by the missionaries, and are beginning to use it in their dwellings. All the missionaries' houses have plastered walls, and board floors, and are very comfortable. There is a great quantity of fine timber on these islands, for building purposes. The timber of the bread-fruit tree and hibiscus are alone made use of by the natives. The missionaries have their planks or boards sawed by hand, and generally by foreign carpenters.

The food of the Samoans is prepared in the way practised at Tahiti, and generally consists of bread-fruit, bananas, taro, sweet potatoes, and yams. Fish is supplied in quantities from the reef, and they also eat the large chestnut, vi-apple, and arrow-root, the fecula of which they begin to manufacture in some quantities. Although it would scarcely be supposed necessary, where everything is so bountifully supplied by nature, yet they make provision for times of scarcity and for their voyages, of the bread-fruit, made

* Musquitoes are exceedingly annoying to strangers, but I did not remark that the natives were troubled with them. Their bodies being well oiled is a great preservation against the bites of these insects.

† The prevalence of sore eyes is said to be owing to the smoke of the lamps.

when green into a kind of paste, and rolled in banana leaves. This undergoes a partial fermentation, and is called mahi. It is not unlike half-baked dough, and has a sour, unwholesome taste. They eat birds, &c., but a large wood-maggot, which is found on the trees, is looked upon as the most delicious food they have.

They have much variety in their cooking, and some of their dishes are exceedingly rich and agreeable to the taste. They practise several modes of cooking the taro-tops; one, by tying them up with cocoa-nut pulp and baking them, in which state they resemble spinach cooked with cream, but are sweeter. Another dish is called faiai, made of the scraped and strained cocoa-nut pulp boiled down to the consistency of custard. It is eaten both hot and cold.

The habits of the Samoans are regular. They rise with the sun, and immediately take a meal. They then bathe and oil themselves, and go to their occupations for the day. These consist in part of the cultivation of taro and yams; building houses and canoes. Many fish; others catch birds, for which purpose they use nets affixed to long poles. They generally find enough to employ the mornings, in getting their daily supply. After this is done, they lounge about, or play at their various games, eat about one o'clock, and again at night, retiring to rest about nine o'clock. The men do all the hard work, even to cookery.

The women are held in much consideration among this people, are treated with great attention, and not suffered to do anything but what rightfully belongs to them. They take care of the house, and of their children, prepare the food for cooking, do all the in-door work, and manufacture the mats and tapa.

They are cleanly in their habits, and bathe daily; after which they anoint themselves with oil and turmeric. This custom, I have no doubt, tends to preserve the health by preventing the excessive perspiration which the heat of the climate naturally brings on. It is, however, at times offensive, for the oil is apt to become rancid.

The Samoans are of a social disposition, more so, indeed, than the other natives of the Polynesian Islands, and they are fond of travelling. The reasons they have for taking these journeys are various; thus, when there is a scarcity of food in one part, or a failure of the crops, they are in the habit of making a faatamilo, or circuit, around a portion of these islands, so that by the time they return (which is at the expiration of three months), their own taro has grown, and the bread-fruit season come around. They are now in their turn prepared to afford the same hospitality and accommodation to others. The old people are usually left at the village to take care of it, whilst the younger portions are gone on one of these malangas or journeys. During these expeditions, a sort of trade is frequently carried on. The different portions of the inhabitants are each celebrated for a particular staple. Some excel in making mats; others in building canoes; the districts in which the sea-ports are, obtain a variety of articles from ships, which are subsequently distributed over the whole group.

It may readily be supposed that there are many circumstances which make this mode of communication inconvenient, particularly

when the travelling party is a large one, in which case it absolutely breeds a famine in its progress.

I have before stated that every village has its fale-tele, which is the property of the chief. In this their fonos or councils are held, and it is also the place where strangers are received. The mode of receiving visitors is attended with much ceremony. A party enters the village without inquiring where or how they are to be entertained, and take up their quarters in the fale-tele. In a short time the chief and principal personages collect and visit the strangers, telling them in a set speech the pleasure they enjoy at their arrival, and their delight to entertain them. This is mostly said in what they term tala-gota, the speech of the lips, and much complimentary language ensues. The Samoan language abounds in phrases adapted to this use, and worthy of a refined people.

After this interchange of compliments, the young women assemble to treat the strangers to ava. This is prepared after the usual mode, by chewing the Piper mythisticum. During this time the young men are employed collecting and cooking food. This is all done with great dispatch. The pigs are killed; the taro collected; the oven heated; and baskets made to hold the viands. In the feast they are well assured of sharing, and therefore have a strong stimulus to exertion.

The strangers on receiving the food, always return part of it to the entertainers. Thus all the village is occupied with the entertainment, and a scene of frolicking ensues until the strangers see fit to take their departure.

Among the heathen, dancing during the evening always follows this feast; but the Christian villages have abolished all dancing.

These visits are not always paid or received in a spirit of hospitality. The chief of a powerful district takes this mode to exact tribute from his less powerful neighbours, and they are on such occasions extremely overbearing and insolent to their entertainers.

For crimes, they have many forms of punishment, among which are: Expulsion from the village in which the offender resides; exposure of the naked body to the sun; flogging; cutting off the ears and nose; confiscation of property; and the compulsory eating of noxious herbs.

When a murder has been committed, the friends of the person slain unite to avenge his death; and the punishment does not fall upon the guilty party alone, but on his friends and relatives, who with their property are made the subjects of retaliation. If any delay in seeking redress in this manner occurs, it is received as an intimation that the injured party, whether the family, the friends, the village, or whole district to which the murdered person belonged, are willing to accept an equivalent for the wrong they have sustained. The friends of the murderer then collect what they hope may be sufficient to avert retribution, and a negotiation is entered into to fix the amount of compensation. When this is agreed upon, it is offered to the nearest relative of the deceased, and the parties who present it perform at the same time an act of submission, by prostrating themselves before him. This closes the affair.

For some crimes nothing but the death of the offender could atone. Among these was adultery; and when the wives of chiefs eloped with men of another district, it generally produced a war. This was one of the causes of the wars waged by Malietoa.

There existed, however, means by which the code was rendered less bloody, in places of refuge for offenders, such as the tombs of chiefs, which were held sacred and inviolate.

Wars were frequent among the Samoans before the introduction of the Gospel, and scarcely a month passed without quarrels being avenged, and with blows. The last and perhaps the most bloody war that has ever occurred on these islands, was about the time of the first visit of Mr. Williams, the missionary, in 1830, when the inhabitants of one of the finest districts, that of Aana, in the western part of Upolu, were almost exterminated. This war continued for eight months, and only those were saved who escaped to the olos, or inaccessible places of refuge, or were protected by the Malo, the ruling or conquering party.

When the missionaries arrived, in 1836, and for upwards of a year afterwards, Aana was without a single inhabitant; but through their influence upon the Malo party, it was agreed at a large fono to restore the exiles to their lands. Aana is again (in 1839) the finest part of the island, and will be in a few years quite a garden.

These wars, like those of all savage people, were attended with great cruelty, and neither old nor young of either sex were spared. It is related that after the last battle of Aana, a fire was kept burning for several days, into which hundreds of women and children were cast.

Their wars were seldom carried on in open fight, but stratagem was resorted to, and all enemies that could be attacked were killed, whether in their houses, or when accidentally met with at their work in the taro patches.

Their arms consisted of clubs and spears, made of the iron wood, (Casuarina,) bows and arrows, and of late years, the musket. The man who could ward off a blow, and at the same time inflict a wound on his adversary, was considered the best warrior. Each village had its separate commander, and there was no general, their operations being from time to time decided in council. Their spears were pointed with the sting of the ray-fish, which, on breaking off in the body, caused certain death.

The olos, above mentioned, were usually on the top of some high rock, or almost inaccessible mountain, where a small force could protect itself from a larger one. One of these olos, or strongholds, of the people of Aana, during the late war, was on a high perpendicular ridge, which forms the western boundary of the bay of Faleletai, and it was the scene of many a bloody contest. The Manono people, coming by night, would land at the foot of the hill, and attempt its ascent, while those on the top would roll and hurl down stones, generally overcoming them with ease, and driving the invaders back with great slaughter. The latter, however, took a fearful and truly savage revenge for their various defeats. Lying in wait until the women came down to fish on the reef, they set

upon them, and massacred them all. The burning of houses, the destruction of the bread-fruit, cocoa-nut trees, taro-patches, and yam-grounds, &c., were the ordinary features of these conflicts.

Upon the occurrence of a cause of war, the parties sent to their respective friends in the different towns to solicit their aid. Such solicitations usually resulted in the whole district, and sometimes the whole of the island, being engaged in a civil war.

On going to war, they were accustomed to cast their hair loose, or to tie it up in various forms; and to add to the fierceness of their appearance, they wore large bunches of false hair, which also increased their apparent height.

In making peace, the conquered party was required to make submission, by bringing loads of stones, fire-wood, and green boughs, and to bow down very abjectly in the presence of the chief. They were also required to pay a large amount of tapa, mats, and other property.

The government of the Samoans is more refined in principle than could well be expected. The rule of hereditary chiefs is acknowledged, and the distinction of the several classes well defined. Great respect is paid to the chiefs, and particularly to the tupu, or highest class. To this belong Malietoa, Pea of Manono, &c. The second class consists of the near relatives of the first, and of others who have large possessions; the third, of the petty chiefs of villages; next come the tula-fales, who are a well-defined class between the chiefs (alii) and common people. These tula-fales are proprietors of the soil, and householders; they possess considerable influence, and act as advisers of the chiefs, and the executors of their orders. Like the chiefs, they derive their rank from descent. There is no distinct name for the common people as a class, but the chiefs in speaking of them always apply some opprobrious epithet. The son of a low-born woman by a chief, ranks as a chief, although he has no authority; and the son of a noble woman by a man of mean birth, may be either a chief or a commoner.

The lands are allotted and distinguished by known boundaries. The natural heir of the former owner succeeds, and is the feudal chief or leader in war, but all his dependents are free to cultivate them. Lands may be sold, which is done at public meetings, and the bargain is made binding by sticking their staves into the ground, or digging a portion of it up.

The whole power lies in the high chiefs of the Malo or conquering party. They assembly in fono, and determine the general laws and rules of action. At the head of this is Malietoa, who is now considered the head chief of Atua, and is supposed will shortly acquire that of Tui of Aana. Each of these districts formerly had a separate chief, bearing the same title of Tui, but in their wars with Manono, nearly all the descendants of these princes were killed off. To obtain this title requires the consent of the chiefs of Manono, and part of Savaii, which belongs to the ruling party.

The fono may levy what contribution it pleases, particularly on those they have conquered. The present Malo, or government, is designated Malo-to-toa—the gentle government.

Although there is no supreme authority acknowledged in any one individual, yet there are instances of chiefs of districts assuming and maintaining it. The late Tamafago, of whom some account has already been given, was one of these. He assumed the attributes not only of a king, but of a god, and after conquering a rival district on Savaii, he took, as has been stated, the name, O le Tupu o Savaii—the King of Savaii. After he was killed, Malietoa succeeded to the same title; but it now confers no power, and is considered merely as complimentary.

Each district and town has its own government. An elderly chief generally presides, or is considered as the head of the village, town, or district. In these primary fonos or meetings, the affairs are generally discussed by the alii (chiefs) and tula-fales (landholders), and what they determine on is usually followed. The great fono, or general assembly, is seldom called, except on matters affecting the whole of the island or district. The subject is calmly debated, and most thoroughly discussed; the final decision, however, is not by vote, but is adopted after consultation, and is governed by the opinions of the most influential chiefs. It thus appears that these assemblies have little influence upon the course the chiefs may have determined to pursue, and serve chiefly to insure the united action of the district in carrying the designs of the chiefs into effect. The tulu-fano or decree, promulgated by the council, is to be obeyed, and those who fail are punished by the Malo, being plundered by them of their lands, &c.

In the descent of the office of chief, the rule of primogeniture is not strictly followed, but the authority and title always remain in the same family.

It is the custom at the fonos to compliment the head chiefs, and invoke blessings on them in prayers, that their lives may be prolonged and prosperous. I was informed that these assemblies were conducted with much ceremony, but I was much disappointed in the one I witnessed. The forms of proceeding may, however, be different, when strangers are not present. The fonos generally begin at an early hour in the morning, and last until late in the afternoon. One of the most pleasing of the ceremonies is that in which the chiefs are supplied with food during the time the meeting is in session. After the food is prepared, and dished in fresh banana leaves, the wives and daughters of the chiefs attire themselves in their best dresses. They then enter the fale-tele, and approach their fathers, husbands, and brothers, &c., before whom they stop, awaiting their instructions as to whom they shall hand the viands. When they have obeyed their directions, they retire. The whole duty is conducted with the utmost decorum, and while it is going on, no conversation is permitted except in a low voice. I learned from the missionaries who had attended some of their meetings, that the manner of speaking was good, and the self-possession of the orators remarkable. The speakers generally have persons near them who act as a sort of prompters, and remind them of the subjects it is desirable they should speak of. The whole proceedings are conducted with the utmost quiet, and no disturbance is allowed.

CHAPTER XVI.

NEW SOUTH WALES.

Departure from the Samoan Group—Wallis Island—Tuvai put on Shore—Hoorn Island—Matthews' Rock—Ball's Pyramid—Port Jackson entered—Arrival at Sydney—Visit to the Governor—Fort Macquarie—Fate of Mr. Williams—Description of the Town of Sydney—Its Streets—Its Resemblance to American Towns—Prevalence of Intoxication—Government-House—Drive to South Head—Public Grounds—Mr. Cunningham the Botanist—His melancholy Fate—Country around Sydney—General Description of that Colony—Illawarra—Droughts and Floods—Rivers of New South Wales—Its Mineral Products—Its Water—Its Climate—Its Temperature—Prevailing Winds—Its Vegetation—Monotony of its Scenery—Soil of Sydney—Horticultural Exhibition—Natives of Australia—Their Numbers—Their Physical Traits—Their Character—Their Conflicts—Their Corrobory Dances—Their Weapons—Their Mode of Climbing—Their Social System—Their Custom of "Making Young Men"—Their Marriages—Burial of their Dead—Arrival of Convict Ship—Prison Fare on Board—Evils of the System—Punishments—Departure from Sydney—Preparations for Antarctic Cruise.

ON the 10th of November we weighed anchor from Apia, and made all sail to the westward; and on the 11th had lost sight of Savaii.

On the 12th we made Uea or Wallis Island, and at 3 P.M. were off its southern end. Instead of a single island, as might be expected from the name, there are nine separate islands, varying in circuit from one to ten miles, and enclosed with one extensive reef. The land is, in general, high.

While off Wallis Island, we were boarded by a canoe, in which was a native who spoke a little English. I had thus the means of communicating with the shore, and resolved to take advantage of it by landing the prisoner Tuvai. My original intention had been to land him at Hoorn Island, which is two days' sail farther to the south; but a similar opportunity might not perhaps have presented itself there.

Having decided on this course, I committed him to the charge of the person who had boarded us, and gave particular directions that he, with his rolls of tapa, should be immediately taken and presented to the chief. The customs of the islanders promised that this would insure him good treatment, by giving him at once a protector; or at least that he would be only robbed by a single person, and not exposed to the pillage of the whole population, who would in all probability have stripped him of his property the instant he landed, if not restrained by the authority of a chief.

Tuvai seemed delighted at being released from his confinement on shipboard, and took his leave by shaking hands with the sentry.

Thus, while the culprit has not been exposed to any unnecessary severity of punishment, I feel satisfied that I fully accomplished my object of convincing his countrymen that they could not hope to commit murders upon their white visitors with impunity.

Hoorn Island we made the following day. It was discovered in 1616, by Schouten and Le Maire. Its highest point is two thousand five hundred feet above the sea; on its northern side many rocks are visible, and the whole surface appears bold and precipitous, affording, as far as we could perceive, little soil for cultivation. Cocoa-palms in considerable numbers were, however, observed upon a low point, projecting from its southern side. This island is inhabited; an unsuccessful attempt to establish a mission upon it was made by the Catholics in 1840.

On the 18th we saw Matthews' Rock, whose height we ascertained to be 1186 feet. It is of a conical shape, about a mile in circumference, and principally composed of conglomerate. A dike of basalt was observed occupying about a third of the width of the island. In order to obtain specimens a boat was dispatched to endeavour to effect a landing: the undertaking proved difficult, but was accomplished by Dr. Fox and Midshipman Henry, who swam through the surf. They brought off some specimens of porphyritic rock, and a few small crystals of selenite. Patches were seen on the northern side of the island, appearing as if covered with sulphur.

On the 26th of November we made Ball's Pyramid, which appears to be a barren rock rising abruptly from the sea.

At sunset on the 29th of November we made the light-house on the headland of Port Jackson. We had a fair wind for entering the harbour, and although the night was dark, and we had no pilot, yet as it was important to avoid any loss of time, I determined to run in. I adopted this resolution, because, although we were all unacquainted with the channel, I was assured that the charts in our possession might be depended upon, and I stood on under a press of sail, accompanied by the Peacock. At 8 P.M. we found ourselves at the entrance of the harbour. Here a light erected on a shoal called the Sow and Pigs, since the publication of the charts, caused a momentary hesitation, but it was not long before it was determined where it was placed, and with this new aid, I decided to run up and anchor off the Cove. In this I succeeded, and the Peacock, directed by signal, followed the Vincennes. At half-past 10 P.M. we quietly dropped anchor off the Cove, in the midst of the shipping, without any one having the least idea of our arrival.

When the good people of Sydney looked abroad in the morning, they were much astonished to see two men-of-war lying among their shipping, which had entered their harbour in spite of the difficulties of the channel, without being reported, and unknown to the pilots. Their streets were speedily alive with our officers and men, who were delighted at finding themselves once more in a civilised country, and one where their own language was spoken.

The Porpoise and Flying-Fish arrived the next day.

Our consul, J. W. Williams, Esq., came early on board to welcome us. He communicated the information that the Relief had arrived

safely, and landed all our stores, which were ready for us, and close at hand; after which, and about ten days before our arrival, she had sailed for the United States.

Our arrival was duly announced by an officer, and through him I was informed that the governor, Sir George Gipps, would be happy to receive me at eleven o'clock. In compliance with this intimation, I had the honour of waiting upon his excellency at that hour, in company with Captain Hudson, and our consul. I made my apologies for having entered the harbour in so unceremonious a manner, and stated the reasons why I could not tender the customary salutes.

The reception I met with was truly kind: every assistance which lay in his power was cordially offered; and I was assured that I had only to make my wants known to have them supplied. The use of Fort Macquarie was immediately granted me for an observatory, a position which, being within hail of my ship, gave me great facilities for conducting my experiments, and at the same time superintending my other duties.

I may in this place acknowledge the open-hearted welcome we met with from all the government officers, military and civil, as well as from the citizens. Our reception was gratifying in the extreme, and cannot be too highly appreciated. The Australian Club was thrown open to us by its committee, and parties, balls, &c. were given in our honour; in short, all our leisure time was fully occupied in the receipt of these hospitable attentions.

The day after we anchored at Sydney, the brig Camden also arrived. By her we learned the melancholy intelligence of the death of the Rev. Mr. Williams, from whom we had parted so short a time before at the Samoan Group. He was then, as will be recollected, about setting forth to propagate the gospel among the savages of the New Hebrides, and was in full health and high spirits, in the ardent hope of success in his mission. My information in respect to this sad event was derived from his associate, Mr. Cunningham. They had placed native missionaries at Rotuma and Totoona. Mr. Williams then landed at Tanna, which they found in a high state of cultivation, and where they were hospitably received by the natives. These were Papuans, and spoke a language much like that of the Hervey Islanders. At Tanna, Samoan missionaries were also left, and they thence proceeded to Erromango. Here they found a barren country and a different race of men, black, with woolly hair, who did not comprehend a word of any of the languages known to the missionaries.

The natives, although apparently suspicious, exhibited no symptoms of actual hostility. Mr. Williams, with Mr. Harris, Mr. Cunningham, and the master of the vessel, landed, and were strolling about, amusing themselves with picking up shells. While thus engaged, they had separated from each other, and Messrs. Harris and Williams were in advance of the others. On a sudden the war-shout was heard, and Mr. Harris was seen running, pursued by a crowd of natives. He was soon overtaken by them, and killed. Mr. Williams then turned, and endeavoured to reach the boat, but

he had delayed too long, and although he had reached the water, he was followed into it and slain also.

Mr. Cunningham was satisfied that a single loaded musket in the hands of those left in the boat, would have been the means of saving these two valuable lives.

I had, in a conversation with Mr. Williams at Upolu, expressed my belief that the savage inhabitants of the New Hebrides would not be safely visited without the means of defence. He had in reply declared himself averse to the use of fire-arms or any other weapon in the propagation of the gospel; being of opinion that it would be more easily and effectually disseminated without them.

The missionary cause has sustained a great loss in Mr. Williams' death; for in him were united a true spirit of enterprise and fervent zeal, with great perseverance and a thorough knowledge of the native character. I still think with melancholy pleasure of the acquaintance I had the good fortune to form with him.

The town of Sydney may, for convenience of description, be considered as divided into two parts; the line that separates them coincides, nearly, with that of George-street, the Broadway of Sydney. The old town lies on the east side of this line, and occupies the eastern promontory of the Cove; it is the least reputable part, and is almost filled with grog-shops and brothels, except at its extreme eastern quarter, where there are a few genteel buildings, in agreeable situations. The streets to the south and west of George-street are well laid out, and are rapidly filling up with good houses.

The houses of Sydney are for the most part well built and commodious. On the western side of the town are many handsome buildings and extensive public grounds; towards the eastern side is a large square, called Hyde Park, upon which are situated the offices of the colonial government, the church of St. James, and the Catholic cathedral.

Sydney contains about 24,000 inhabitants, which is about one-fifth part of the whole population (120,000) of the colony; and about one-fourth of this number are convicts. In truth, the fact that it is a convict settlement may be at once inferred from the number of police officers and soldiers that are everywhere seen, and is rendered certain by the appearance of "chain-gangs." The latter reminded us, except in the colour of those who composed them, of the coffee-carrying slaves at Rio; but the want of the cheerful song, and the apparent merriment which the Brazilian slaves exhibit in the execution of their tasks, was apparent.

When viewed from the water, Sydney appears to great advantage. It lies on the south side of the harbour, and covers two narrow promontories, separated and bounded by coves. The ground rises gradually, and thus exhibits its buildings to great advantage, giving it the air of a large commercial city. It is chiefly built of a drab-coloured sand-stone, resembling that employed in the new public buildings at Washington, but of a lighter hue. Red brick is also used in building, and the suburbs contain many neat cottages and *country-seats*. The sand-stone is a beautiful material, but is not

very durable. The view of the town is diversified by the peculiar foliage of Australian trees, among which the pines of Norfolk Island and Moreton Bay are most conspicuous. At the time of our arrival, the trees were infested with locusts (Cicada), which made a noise absolutely deafening. The sound this insect produces is the same as that made by the analogous species in the United States, but is continued here during the heat of the day, and ten times more deafening.

Handsome equipages abound, and the stage-coaches are numerous. These, with the costume and demeanour of the more respectable part of the population, struck us as being more like what is seen in our towns than in those of Europe. Everything has a new look about it, and the people manifest more of the bustle and activity of our money-making and enterprising population than are to be seen in old countries. The acquisition of wealth seems to be the only object of all exertion here, and speculation was as rife as we had left it in the United States. Cutting down hills, filling up valleys, laying out and selling lots, were actively going on. There are, in truth, many particulars in which the people of Sydney resemble those of America. This is observable, among other things, in the influence of the public press. In Australia, however, it is more licentious than any, except the lowest, of our newspapers; taking unwarrantable liberties with private character, and is far from being remarkable for discrimination.

In one particular, a most striking difference is to be observed between the scenes to be witnessed at Sydney, and in the cities of the United States. This consists in the open practice of the vice of drunkenness, which here stalks abroad at noonday. It is not rare at any time, but on holidays its prevalence surpasses anything I have ever witnessed. Even persons of the fair sex (if they may be so called) were there to be seen staggering along the most public streets, brawling in the houses, or borne off in charge of the police. However highly coloured this picture may be thought, it is fully corroborated by the police reports of the Sydney papers on Monday mornings. The police-officers themselves are among the venders of the intoxicating liquid.

The facilities for indulgence in this vice are to be seen everywhere in the form of low taverns and grog-shops, which attract attention by their gaudy signs, adapted to the taste of the different orders of customers, as the "King's Arms," the "Punch Bowl," the "Shamrock," the "Thistle," the "Ship," the "Jolly Sailors." Of these, two hundred and fifty are licensed by the government, or more than one to each hundred souls. Among them a small shop was pointed out, which from the extent of its custom yielded the enormous amount of £200 for rent to its owner annually, a sum far beyond the apparent value of the whole property. The quantity of rum which is consumed in the colony may be estimated from the facts, that the revenue derived from its importation was, in 1838, £189,450, and that the supply amounts nearly to eight gallons annually for every individual in the colony.

It is related, that a highly respectable individual transmitted

complaints against Governor Macquarie to the home government; and that, by way of answering these expostulations, the reply of the governor was, "There are but two classes of persons in New South Wales, those who have been convicted, and those who ought to be."

The old government-house, where I had the honour of seeing Sir George Gipps, is a low cottage-shaped building, which has no pretensions to beauty, and appears to have been built at different times, having been enlarged as often as additional accommodation was needed. During the summer months the governor resides at the government-house at Paramatta.

A new palace or government-house is at present building, in the public grounds which lie to the eastward of the old one, from which a road extends through them towards the South Head of Port Jackson. This road is the usual promenade and drive of the citizens of Sydney. After leaving the government domain, it enters Wooloomoloo, a region covered with the country-seats and cottages of the higher classes, which, although originally little more than a barren rock, has been brought into a high state of cultivation by its occupants. The drive in this direction may challenge comparison for beauty with any part of the world. It presents innumerable and picturesque views of the noble bay, and of the promontories that jut into it, occupied by mansions and ornamental grounds. On reaching the South Head, a view of great beauty is also seen. The point thus named is a bold headland about two hundred and fifty-four feet in height, on which stands the light-house, a fine tower, with a brilliant revolving light.

The public grounds are in part occupied by a botanical garden, which was laid out by Mr. Cunningham, the botanist of the colony, to whose memory a monument is about to be erected in the garden, which is itself a memorial of his fine taste, and his successful cultivation of the science he professed. Mr. Cunningham perished by a melancholy death, which is still spoken of with regret. He had, in his capacity of botanist, accompanied Major Mitchell, the surveyor-general of the colony, on a tour of exploration in 1835. In the pursuit of his researches, he wandered from the party and did not return. As soon as he was missed, the native guides were sent in search of him, but returned without having succeeded in finding his traces. Major Mitchell then instituted a fresh search, in which the tracks of Mr. Cunningham's horse were found, and followed for ninety miles. Within this space three places were seen where he had stopped and encamped. From the last of these, the tracks of the horse were again followed, until the carcase of the animal was found dead through fatigue and starvation, with the whip tied to the bridle, and all his accoutrements about him. Retracing their steps to his last encampment, they ascertained, on close examination, that he had there killed his dog for food, and his footsteps were seen as if making rapid strides for the bed of a river, which he had followed to a pool, into which he had plunged. Farther down the river, some shells were found near the remains of a fire, which had evidently been kindled by a white man. Here all

further traces of him were lost, and the search abandoned in despair.

Some months afterwards a second search was made by Lieutenant Vouch. In the course of this, some natives were taken near the Brogan River, in whose possession a part of Mr. Cunningham's clothing was found. They stated that a white man had come to them in a state of great exhaustion; that he was hungry, and they fed him, but that during the night they had become afraid, and killed him. The body was never found.

Lieutenant Vouch inferred that Mr. Cunningham had become deranged by the severity of his sufferings, and that this had caused him to wander about at night, which, with other suspicious movements, had alarmed the natives, who, under the influence of their terrors, had murdered him.

At the end of the walk around the government domain, the following inscription is calculated to excite a smile: "Be it recorded, that this road round the inside of the government domain, called Mrs. Macquarie's road, so called by the governor on account of her having originally planned it, three miles and three hundred and seventy-seven yards in length, was finally completed on the 13th day of June, 1816."

Governor Macquarie has literally put his mark on the town of Sydney, where hardly a single street, square, or public building can be passed without seeing his name cut in stone.

The aspect of the country around Sydney is sufficient to prove that New South Wales is very different, in its general features, from other parts of the globe. This is chiefly owing to two causes: the aridity of its climate, and the prevalence of sandstone rock. This rock may be readily examined at the Heads of Fort Jackson, and on the shores of the many coves that surround this beautiful harbour. Its colour is pale yellow, or drab, and it lies in beds nearly horizontal and of various thickness, whose upper surface, except where broken by ravines and water-courses, forms a table-land. The average elevation in the neighbourhood of Sydney is from three hundred and fifty to four hundred feet. At this level it extends in gentle undulations to a great distance inland.

This arid soil yields but a scanty growth of vegetable products, which, consisting of burnt pasture, and thinly scattered trees and shrubbery, give to the whole region a look of desolation. The grass does not everywhere conceal the bare rock, and the thin soil supports only a few gum-trees (Eucalypti) and bushes. Throughout the wide plain there is little to relieve the eye, except here and there a small cultivated spot.

In consequence of this aridity there are many continuous miles of waste lands in New South Wales, which by the inhabitants are called "forests." These are very different from what we understand by the term, and consist of gum-trees (Eucalypti) so widely scattered that a carriage may be driven rapidly through them without meeting any obstruction, while the foliage of these trees is so thin and apparently so dried up as scarcely to cast a shade. Thus miles may be traversed in these forests without impediment. A few marshy

spots are occasionally seen, covered with thickets of brush; and in other places there are tracts so dry that even the gum-trees will not grow upon them, and which receive the direct and scorching rays of the sun.

The most remarkable part of New South Wales is the district of Illawarra, situated on the coast, about sixty miles to the south of Port Jackson. This is a narrow strip, that seems to be formed by the retreat of the sandstone cliffs from the sea, to a distance which varies from one to ten miles. The cliffs or mountains vary in height from one thousand to two thousand feet. This region is extremely fruitful; its forests are rich, with a great variety of foliage, and of creeping plants, which twine around the trees. The great size and number of the trees served to remind the gentlemen who visited it, of the vegetation of the tropical islands, luxuriant with tree-ferns, bananas, banyans, &c. This luxuriance is in part owing to a rich and light soil, consisting of decomposed basalt and argillaceous sandstone, mixed with vegetable mould, but more to the peculiarity of its climate. The high cliffs which bound it to the west, keep off the scorching winds which reach other parts of the coast from that quarter, and the moisture of the sea-breeze intercepted by them is condensed, falling in gentle showers. For this reason, it is not subject to the long and frequent droughts that occur in other parts of New South Wales.

These droughts are sometimes of such long continuance, that we at one time read of the whole country having been burnt up for want of rain, a famine threatened, and the sheep and cattle perishing in immense numbers.

These have been succeeded by long-continued rains, which have raised the rivers thirty or forty feet, flooded the whole country, deluged the towns and villages, and completely destroyed the crops. Such floods carry with them houses, barns, stacks of grain, &c., drown the cattle, and even the inhabitants are, in some cases, saved only by being taken from the tops of their houses in boats.

The year of our visit (1839) added another instance to the list of disasters of the latter kind; and the published accounts state that twenty thousand sheep were lost in the valley of the Hawkesbury by the floods. Such evils, indeed, appear to be of frequent occurrence, and the settler in New South Wales has to contend with the elements in an unusual degree.

Such disasters are equally injurious to the husbandman and the wool-grower; for the same cause that destroys the crops also carries off the stock, so that it is only the large capitalist who can successfully struggle against or overcome such adverse circumstances. It is some recompense for this state of things, that one or two favourable years will completely repay all former losses; and it is due to the perseverance and industry of the inhabitants of New South Wales to say, that they have already, in spite of the difficulties they have had to encounter, made it one of the most flourishing colonies on the globe.

In seasons of drought, the flocks and herds are driven into the *interior.* The year of our visit (1839) was accounted a wet one, and

some parts of the sandstone district which produced good crops of grain,* in dryer seasons would have been dry to barrenness.

In such a climate it is not surprising that there are hardly any streams that merit the name of rivers. It is necessary to guard against being misled by the inspection of maps of the country, and forming from them the idea that it is well watered. Such an impression would be erroneous, and yet the maps are not inaccurate; streams do at times exist in the places where they are laid down on the maps, but for the greater part of every year no more is to be seen than the beds or courses, in which, during the season of floods, or after long-continued rains, absolute torrents of water flow, but which will within the short space of a month again become a string of deep pools. Were it not for this peculiar provision of Nature, the country for the greater part of the year would be without water, and consequently, uninhabitable.

The principal rivers which are found to the east of the Blue Mountains are the Hunter, George, Shoalham, and Hawkesbury. None of these streams are navigable farther than the tide flows in the estuaries, which sometimes extend twenty or thirty miles inland, for beyond them they are usually no more than twenty inches in depth. Each of these streams has numerous tributaries, which drain a large area of country, and during heavy rains the main branches are suddenly swelled, and cause the floods which have been spoken of. To the west of the mountains, the water-courses are of a very different character. The Darling, for instance, through a course of seven hundred miles, does not receive a single tributary, although it is said to drain an extent of sixty thousand square miles. It possesses the other character which has been mentioned, of being frequently reduced to a mere string of pools. The Darling, Morrumbidgee, and Lachlan, unite about one hundred miles from the ocean, and their joint stream is known by the name of the Murray, which, after passing through Lake Alexandria, enters the sea at Encounter Bay. The surface drained by these streams is about two hundred and fifty thousand square miles.

Another remarkable occurrence observed in these western waters is the disappearance of a river in swampy lands, where, as is supposed, it is swallowed up by the caverns in the limestone rocks. This is the case with the Macquarie, which has its source near Bathurst.

According to all accounts, salt is very generally diffused throughout New South Wales, and even all Australia. It has been reported as being found in masses in the sandstone, but no specimens of it were obtained by the Expedition. Scarcely a well is dug in the interior which is not brackish; and, according to Major Mitchell, Captain Sturt, Oxley, and others, many of the rivers are quite saline in parts of their course. The northern tributaries of the Hunter and Darling are instances of this.

The lakes are also said to be saline, and in some instances

* In the diluvial flats along the rivers, the wheat crop is usually about twenty-five bushels to the *acre*. *Forty* to forty-five bushels have been obtained, but such crops *are very unusual*.

sufficiently strong to afford a large and profitable yield of salt; but being very far in the interior, and without the means of transportation, they are of little value. Along the south coast of Australia, such lakes are described as existing near the sea, and may possibly prove of some value to that portion of New Holland.

Lead and iron have been found in small quantities; the deposits of the former are all trifling. Those of the latter afford too impure an ore, and not in sufficient abundance, to be worked.

The minerals stated to be found in Australia, specimens of which were procured for the Expedition, are chalcedony, agates, jasper, quartz, augite, and stilbite; feldspar, arragonite, gypsum, chlorite, mica in granite; sulphur and alum, galena and plumbago, magnetic iron, iron pyrites, and basalt.

Fossils appear to be confined to particular localities, but are by no means rare.

Columns of basalt of great regularity are found on the coast of Illawarra, but the articulations are all plane.

The water is much impregnated with alum and iron, and its use is avoided by the inhabitants.

Deserts covered with saline plants are said to be frequently met with.

The climate of Australia may be considered generally as very dry; the irregularity of the rains, and the nature of the soil, all prove that it is so; yet the aridity is not marked, as in other countries, by a general tendency in the plants to produce thorns, although the peculiarity of the vegetation makes the dryness apparent in other ways. From all accounts, New South Wales is subject to as great atmospheric vicissitudes as the middle United States. For a series of years, droughts will occur, which in turn give place to years of successive floods, and these prevail to an extent that can hardly be credited, were it not that the account has been received from good authority. As a striking instance of it, Oxley, in his exploring journeys into the interior, in 1817, found the country everywhere overflowed, so as to prevent him from proceeding; while Mitchell, in 1835, in the same districts, was continually in danger of perishing from thirst. The latter states that he found Unios (or fresh-water mussels) sticking in the banks of rivers and ponds above the level of the water; and also dead trees and saplings in similar situations.

This alternate change must exert a great influence on the productions of the soil; the rivers ceasing to flow, and their beds becoming as it were dry, with the exception of the pools heretofore spoken of, must likewise have an influence. The prevailing westerly winds sweep with force over the whole country, blighting all they touch. The effect of these hot winds is remarkable, for they will in a few hours entirely destroy the crops by extracting all the moisture from the grain, even after it is formed, and almost ready for harvest; and the only portion that is left is that which has been sheltered by trees, hedges, or fences. They thus destroy the prospect of the husbandman when his crops are ready for the sickle. It is thought, *and I should* imagine with reason, that were the Blue Mountains a

more lofty range, this would not be the case, as they would have a tendency to continue the supplies to the streams throughout the year, by the condensation of the vapour from the sea.

These hot winds come from the direction of the Blue Mountains, and, what seems remarkable, are not felt on the other side of the mountains, or in their immediate vicinity. Yet the extent between the coast and the mountains is not sufficient to produce these winds, being only forty-five miles; and if they proceed from the interior, they must pass over those mountains, an elevation in some places of three thousand four hundred feet. Their great destructiveness is undoubtedly caused by their capacity for moisture, although few observations have as yet (as far as I was able to obtain information) been made upon them, except in relation to the blight they occasion. It has been found that fields which have a line of woods on the side whence they blow, escape injury. The harvest immediately on the line of the coast does not suffer so much, being exempted in part from their withering influence by the moisture that is imbibed from the sea.

There is a portion of this country that is an exception to the general rule of aridity, namely, the district of Illawarra. This forms a belt of from one to ten miles wide, and has the range of the Kangaroo Hills just behind it, of one thousand feet; these are sufficiently high at this distance from the coast to condense the moisture, and also to protect the district from the blighting effects of the blasts from the interior.

One is entirely unprepared for the alleged facts in relation to this country; for instance, Mitchell, in his journey to the south and west, during the four winter months, witnessed no precipitation of moisture except frosts in the mornings, and the thermometer was often below the freezing point. Violent winds occur, which have obtained the name of brick-fielders. They are nothing more than a kind of gust, peculiar to the environs of Sydney, after a sultry day. During one of these gusts little or no rain falls, though the wind frequently approaches a hurricane in force. These winds get their names from bringing the dust from the brick-fields, formerly in the suburbs of Sydney, but which are now almost entirely built over. The temperature during the blow generally falls twenty or twenty-five degrees, in the space of as many minutes; the dust is very great, and the wind so strong as to cause apprehension lest the houses should be unroofed, or the chimneys thrown down. Our standard barometer was carefully watched during the coming on of two of these gusts, and found to fall 0·200 in., the first time, and the second only 0·020 in, ; but the temperature fell each time about ten degrees. They were not, however, true brick-fielders, or such as a resident would so denominate.

Snow has been known to fall in Sydney, but so rarely, that we were told some of the inhabitants were doubtful as to its nature. On the mountains it is not uncommon, and in the winter season is always seen on those in the New England district, which, although three or four degrees to the northward of Sydney, enjoys a much cooler climate.

I found at Sydney a great variety of opinions existing about the climate. During our stay, the weather was unfavourable for all astronomical observations, and almost the whole time cloudy or rainy. The climate is, generally speaking, a healthy one, and not unlike that of some parts of our own country. The colony is subject to occasional epidemics, and from the best information I could procure, it is thought that the mortality is about one in forty-three; this may be called a very small proportion, when one takes into consideration the great quantity of ardent spirits that is consumed.

The general appearance of the vegetation of New South Wales presents many peculiarities. The character of its productions is totally distinct from those of the other portions of the globe. The gum trees, Norfolk pines, and those of Moreton Bay, attract attention from their scattered appearance and peculiar foliage. All these have a dark and sombre hue. A remark made by one of our gentlemen is characteristic of the former, "that they were ghosts of trees." The leaves being set edgewise causes this appearance, and in consequence they give little or no shade. This peculiar position of the leaf is more conspicuous in the Eucalypti than in other genera, for in them the leaves are all pendant, while the leaves in the other genera are usually upright, rigid, and somewhat as may be seen in the acacias and other tribes. It was observed that both surfaces of the leaves were much alike, having as it were two upper surfaces. Whether any physiological purpose has been assigned for such an arrangement I have not been informed.

Among the most singular of the productions of Australia are the wooden pears as they are called. These have a close external resemblance to the fruit whose name they bear, but are ligneous within. Another of the fruits is a cherry, whose stone is external, and would be similar to our fruit of that name were the kernel in its proper place. The pit adheres firmly to the pulp, which is of the size of a pistol-bullet, but the fruit shrinks when ripe to that of a buck-shot. The pear grows on a low shrub, the cherry on a large bush.

The want of close growth of the "forest," in New South Wales, so different from what is understood by the term elsewhere, is not the only remarkable appearance, but the absence of all decayed foliage is also extraordinary. The ground is clear of any fallen leaves, and everything betokens that perennial verdure is here the order of things. These two features combined, give the forests of Australia the air of a neatly-kept park. Annual plants (if so they can be called) abound in the forest, requiring, it is said, more than a single year to bring their seeds to maturity. There were instances, we were told, of crops of grain remaining three years in the ground. That these types, so rare in other countries, should be abundant in Australia, is not remarkable, when it is considered that they are but instances of an almost complete diversity between the natural history of this country and that of other regions.

The remark, that the leaves of the trees are wood, and their wood *iron, is* not inappropriate to most of the plants of this country. It

FOREST OF ILLIWARA—NEW SOUTH WALES.

is not, however, to be inferred that all the plants are different from those of other countries; so far from this being the case, a considerable admixture of ordinary forms was met with. Among these was a great variety of grasses, some of which were before considered to be peculiar to North America. Many other forms decidedly North American were also met with; a circumstance which, from the difference of geographical position, distance, and climate, was not to be expected.

All seem to have been struck with the apparent monotony of the scenery, foliage, and flora, although in reality the latter presents great variety. The general sentiment was, that they were fatigued by it, which is not a little surprising, as the Australian flora rivals in number of species that of Brazil. This feeling may be accounted for by the overpowering impression that is made by the gum trees, whose foliage is of a dark sombre green. There is also something in the general absence of underbrush; and the trees are so distant from one another that there is no need of roads, so that a carriage may drive anywhere.

The trees are in general tall in proportion to their diameter, with an umbrella top, and have the appearance of being thinly clad in foliage. No woody vines are to be seen, nor any parasitic plants. In many places a stunted growth of detached shrubs, called in the colony "scrub," exists, which might be termed one of their "forests" in a dwarf shape.

In the Illawarra district a totally distinct state of things exists. Here is to be found all the luxuriance of the tropics—lofty palms, among them the Corypha australis, with tree-ferns of two or more varieties, different species of Ficus, a scandent Piper, and very many vines. The forest of this district is thick, and alive with animal life.

This district is about fifty miles long, and forms a semicircular area about thirty miles in its greatest width. The peculiarity of the situation of this district would tend to show what would have been the probable state of New Holland, or rather its eastern side, if the mountains were sufficiently high to intercept the moisture of the ocean, and prevent the access to it of the dry hot winds from the interior. Illawarra may be termed the granary of New South Wales; here the crops seldom, if ever, fail, and are very abundant.

The soil of Sydney consists of black mould, mixed with a clean white sand. The quantity of sand is such, as in the dry seasons to affect the vegetation. This sand, I understood, is now exported to England at a great profit, being found a valuable article in the manufacture of plate glass. This soil, however, is made to yield a plentiful supply of fruits and vegetables; and the display exhibited at the horticultural exhibition was highly creditable, not only for the perfection to which the productions had been brought, but for their great variety. The exhibition was held in the large market-house in George-street, which was tastefully decorated for the occasion with branches and festoons of flowers. In front of the door was an arch formed of beautiful flowers, with the motto,

"Advance Australia!" surmounted by a crown, and the letters V. R. in yellow flowers. Behind this the band was stationed, which, on our entrance, struck up Yankee Doodle. Tickets were sent to the consul for those belonging to the squadron. There were a great many South American plants in pots. A premium was received for Tropæolum pentaphyllum, Maurandya Barclayana, and for two species of Calceolaria. There were likewise Amaryllis belladonna and umbellata, Bouvardia triphylla, Cobæa scandens, and several Passifloras, and a variety of hyacinths, dahlias, tuberoses, &c., all fine.

The grapes exhibited were beautiful, and some of them in very large clusters. Nectarines, peaches, apples, pears, small oranges, shaddocks, pine-apples, chestnuts, and walnuts, were also in abundance.

After viewing the fruit we examined the vegetables, which consisted of potatoes, carrots, turnips, very large pumpkins, cucumbers, cabbages of different kinds, and very fine, particularly the curled Savoy and early York, tomatoes, celery, squashes, vegetable marrow, beets, capsicums, and beans.

After the vegetables came specimens of native wines, and a silver cup was given as a premium for the best. The white wine resembled hock in taste; the red, claret. The climate is thought to be favourable to the production of the grape.

The grains grown in the colony are, wheat, rye, barley, Indian corn, and oats. The wheat yields from six to twenty-five bushels to the acre, and some low ground as high as thirty-five bushels. Its weight per bushel is sixty-two pounds. The crops of this grain are subject to great fluctuations, and the most promising appearance may in a single day be entirely destroyed.

Tobacco has been cultivated, and it is thought will succeed; but the frequent frosts render it a very uncertain crop.

Cotton has been attempted, but with little success. The value of pasturage, and its profitable yield in sheep-walks, will long be a bar to the extensive cultivation of any plants that require much labour in their production.

The orange, citron, and lemon trees present a scraggy and yellow appearance, and produce small and insipid fruit, in comparison with that of the tropics. Peaches thrive, and grow in large quantities, and of high flavour. Every farmer has his peach orchard; and the fruit is so plentiful that they fatten their pigs on them.

The natives of Australia are fast disappearing. The entire aboriginal population has been estimated as high as two hundred thousand; this estimate is founded on the supposition that the unexplored regions of the country do not differ materially from that part of it which is known, which cannot well be the case. Other estimates, and probably much nearer the truth, are given at from sixty to seventy-five thousand.

The ravages of intoxication and disease, combined with their occasional warfare, will readily account for the rapid disappearance of the native population; and but a few more years will suffice for *the now* scanty population to become extinct. In 1835, the surveyor-

general, Mitchell, estimated that in about one-seventh of the whole colony, which he had examined, the natives did not exceed six thousand in number; they are in many parts most wretched-looking beings, and incorrigible beggars; the moment they see a stranger, he is fairly tormented to give something; a shilling or a sixpence contents many, and when laid out for rum, or bread, is shared by all present.

The introduction of European arts has caused but little improvement, while the vices which accompany them have been the bane of the native population, which has thus acquired a fondness for ardent spirits and tobacco. The natives usually lead a wandering, vagabond life, hanging about the houses of the settlers where they are well treated, and doing little jobs for a slight recompense in the above articles. Their habitations are mere temporary shelters, formed of boughs and bark piled up against the stump of a fallen tree, rather to shield them from the wind than for a regular habitation; the reason for this may be, that owing to superstitious scruples they never encamp in one spot three nights in succession. At Illawarra, their huts were made by setting two forked sticks upright, on which another was laid horizontally; on the latter, one end of pieces of bark, taken from the nearest gum tree, is laid, while the other end rests upon the ground. A fire is built on the open side, which not only warms them, but keeps off the myriads of musquitoes and other insects. As many as can enter such a hut, take shelter in it, lying upon the soft bark of the ti tree.

The natives of Australia differ from any other race of men, in features, complexion, habits, and language. Their colour and features assimilate them to the African type; their long, black, silky hair has a resemblance to the Malays; in their language they approximate more nearly to our American Indians; while there is much in their physical traits, manners, and customs, to which no analogy can be traced in any other people.

They are difficult to manage, taking offence easily when they are ill-treated; and if any one attempts to control, thwart, or restrain their wandering habits, they at once resort to the woods, and resume their primitive mode of life, subsisting upon fish, grubs, berries, and occasionally enjoying a feast of kangaroo or opossum-flesh. They eat the larvæ of all kinds of insects with great gusto. Those who reside upon the coast fish with gigs or spears, which are usually three-pronged; they have no fish-hooks of their own manufacture.

When they feel that they have been injured by a white settler, they gratify their revenge by spearing his cattle; and it is said, upon good authority, that not a few of the whites, even of the better class, will, when they can do so with impunity, retaliate in the blood of these wretched natives; and it is to be regretted that they are not very scrupulous in distinguishing the guilty from the innocent.

The natives of New South Wales are a proud high-tempered race; each man is independent of his neighbour, owning no superior, and exacting no deference; they have not in their language any word signifying a chief or superior, nor to command or serve. Each *individual is the source of his own comforts*, and the artificer of his

own household implements and weapons; and but for the love of companionship, he might live with his family apart and isolated from the rest, without sacrificing any advantages whatever. They have an air of haughtiness and insolence arising from this independence, and nothing will induce them to acknowledge any human being as their superior, or to show any marks of respect. In illustration of this, Mr. Watson, the missionary, is the only white man to whose name they prefix "Mr.," and this he thinks is chiefly owing to the habit acquired when children under his authority. All others, of whatever rank, they address by their Christian or surname. This does not proceed from ignorance on their part, as they are known to understand the distinctions of rank among the whites, and are continually witnessing the subservience and respect exacted among them. They appear to have a consciousness of independence, which causes them on all occasions to treat even the highest with equality. On being asked to work, they usually reply: "White fellow work, not black fellow;" and on entering a room they never remain standing, but immediately seat themselves.

MC. GILL, NATIVE OF NEW SOUTH WALES.

They have not, properly speaking, any distribution into tribes. In their conflicts, those speaking the same language, and who have fought side by side, are frequently drawn up in battle array against each other, and a short time after may be again seen acting together. Their conflicts, for they do not deserve the name of wars, are conducted after the following manner. The quarrel or misunderstanding generally arises from some trivial affair, when the aggrieved party assembles his neighbours to consult them relative to the course to be pursued. The general opinion having been declared, a messenger is sent to announce their intention to commence hostilities to the opposite party, and to fix a day for the combat. The latter immediately assemble their friends, and make preparations for the approaching contest. The two parties on the day assigned meet, accompanied by the women and children. The first onset is made by the oldest women (hags they might be termed) vituperating the opposite side. Then a warrior advances, and several throws of spears take place. These are parried with much dexterity, for all the natives possess great art and skill in avoiding missiles with their shields. This exchange of missiles continues for some time, and not unfrequently ends without any fatal result. When one of either party is killed, a separation takes place, succeeded by another *course of* recrimination, after which explanations are made, the

CORROBORY DANCE.

affair terminates, and hostility is at an end; the two parties meet amicably, bury the dead, and join in the corrobory dance.

These dances are not only the usual close of their combats, but are frequent in time of peace. They appear almost necessary to stir up their blood; and under the excitement they produce, the whole nature of the people seems to be changed. To a spectator the effect of one of these exhibitions almost equals that of a tragic melo-drama.

A suitable place for the performance is selected in the neighbourhood of their huts. Here a fire is built by the women and boys, while such of the men as are to take a share in the exhibition, usually about twenty in number, disappear to arrange their persons. When these preparations are completed, and the fire burns brightly, the performers are seen advancing in the guise of as many skeletons. This effect is produced by means of pipe-clay, with which they paint broad white lines on their arms and legs, and on the head, while others of less breadth are drawn across the body, to correspond to the ribs. The music consists in beating time on their shields, and singing, and to it the movements of the dancers conform. It must not be supposed that this exhibition is a dance in our sense of the word, nor is it like anything that we saw in the South Sea Islands. It consists of violent and odd movements of the arms, legs, and body, contortions and violent muscular actions, amounting almost to frenzy. The performers appear more like a child's pasteboard supple-jack than anything human in their movements.

NEW HOLLAND BOY.

This action continues for a time, and then the skeletons, for so I may term them, for they truly resemble them, suddenly seem to vanish and reappear. The disappearance is effected by merely turning round, for the figures are painted only in front, and their dusky forms are lost by mingling with the dark background. The trees illuminated by the fire, are brought out with some of the figures in bold relief, while others were indistinct and ghost-like. All concurred to give an air of wildness to the strange scene. As the dance proceeds, the excitement increases, and those who a short time before appeared only half alive, become full of animation, and finally were obliged to stop from exhaustion.

Their weapons are the spear, club, or nulla-nulla, boomereng, dundumel, and the bundi. Their spears are about ten feet long, and very slender, made of cane or wood, tapering to a point, which is barbed. They are light, and one would scarcely be inclined to believe that they could be darted with any force; nor could they without the aid of the wammera, a straight flat stick, three feet in

length, terminating in a socket of bone or hide, into which the end of the spear is fixed. The wammera is grasped in the right hand by three fingers, the spear lying between the forefinger and thumb. Previous to throwing it, a tremulous or vibratory motion is given to it, which is supposed to add to the accuracy of the aim; in projecting the spear, the wammera is retained in the hand, and the use of this simple contrivance adds greatly to the projectile force given to the spear. They are well practised in the use of these weapons.

The nulla-nulla, or uta, is from thirty to thirty-six inches in length, the handle being of a size to be conveniently grasped.

The dundumel is a weapon used by the natives of the interior; it has a curved, flat handle, thirty inches in length, and terminates in a projection not unlike a hatchet; it is thrown from the hand before coming to close quarters, and usually at a very short distance.

But the most extraordinary weapon is the boomereng. This is a flat stick, three feet long and two inches wide, by three-quarters of an inch thick, curved or crooked in the centre, forming an obtuse angle. At first sight one would conclude it was a wooden sword, very rudely and clumsily made; indeed, one of the early navigators took it for such. It is an implement used both for war and in the chase. In the hands of a native it is a missile efficient for both, and is made to describe some most extraordinary curves and movements.

As a defence, they use a shield made of the thick bark of the gum-tree; this they call hiclemara. It is peculiar in shape, and on the coast is three feet long by six or eight inches wide, with a handle in the centre; it is made rounding. Those in the interior are only a three-cornered piece of wood, with a hole on each side, through which the hand is thrust. The size of the latter is smaller, being only two feet long, and three or four inches broad. It would seem almost impossible that so small a shield should be sufficient to guard the body of a man; and nothing but their quickness of eye and hand could make it of any value as a protection against the spear or club.

The mode in which the natives climb trees was considered extraordinary by those who witnessed it, although they had been accustomed to the feats of the Polynesians in the ascent of the cocoa-nut trees. The Australians mount a tree four or five feet in diameter, both with rapidity and safety. As they climb they cut notches above them, with a stone or metal hatchet, large enough to admit two of their toes, which are inserted in them, and support their weight until other holes are cut.

The social system and intercourse of the Australians is regulated by custom alone. As no system of government exists, or any acknowledgment of power to enact laws, they are solely guided by old usage, and can give no account whatever of its origin. The universal reprobation of their associates, which follows a breach of ancient customs, has a strong tendency to preserve a strict observance of them. Many of these customs struck us as remarkable; those that have not been actually seen by the officers of the Expedition, have been described by persons entitled to the fullest credit.

The custom (to use the language of the settlers) "of making young men," is singular. When the boys reach the age of fourteen, or that of puberty, the elders of the tribe prepare to initiate them into the privileges of manhood. A night or two previous, a dismal cry is heard in the woods, which the boys are told is the Bùlù calling for them. Thereupon all the men of the tribe set off for some secluded spot, previously fixed upon, taking with them the boys or youths to be initiated. No white man is allowed to be present, and the precise nature of the ceremony is therefore unknown; but it is certain that the ceremonies are designed to try their courage, fortitude, and the expertness of the boys in reference to their future employments in the chase and in war. There is probably some difference in these ceremonies among the different tribes. The Wellington station, or those of the interior, for instance, never knock out a front tooth, which is always done on the coast.

From the time the youths are initiated, they are required to yield implicit obedience to their elders. This is the only control that seems to prevail, and is very requisite to preserve order and harmony in their social intercourse, as well as to supply the place of distinctions of rank among them.

The youths are likewise restricted to articles of diet, not being allowed to eat eggs, fish, or any of the finer kinds of opossum or kangaroo. Their fare is consequently of a very poor description, but as they grow older these restrictions are removed, although at what age we have not learnt; but after having passed the middle age, they are entirely at liberty to partake of all. The purpose of this is thought to be not only to accustom them to a simple and hardy way of living, but also that they should provide for the aged, and not be allowed to appropriate all for themselves. Selfishness is therefore no part of their character, and all observers are struck with their custom of dividing anything they may receive among each other, a disinterestedness that is seldom seen among civilised nations.

To protect the morals of the youths, they are forbidden from the time of their initiation until their marriage to speak to or even to approach a female. They must encamp at a distance from them, and if, perchance, one is seen in the pathway, they are obliged to make a detour in order to avoid her. Mr. Watson stated that he had been often put to great inconvenience in travelling through the woods with a young native for his guide, as he could never be induced to approach an encampment where there were any women.

The ceremony of marriage is peculiar. In most cases the parties are betrothed at an early age, and as soon as they arrive at the proper age, the young man claims his "gin," or wife.

The women are considered as an article of property, and are sold or given away by the parents or relatives, without the least regard to their own wishes. As far as our observation went, the women appear to take little care of their children. Polygamy exists, and they will frequently give one of their wives to a friend who may be in want of one; but, notwithstanding this laxity, they are extremely jealous, and are very prompt to resent any freedom taken with their

wives. Their quarrels, for the most part, are occasioned by the fair sex, and being the cause, they usually are the greatest sufferers; for the waddy is applied to their heads in a most unmerciful style, and few old women are to be seen who do not bear unquestionable marks of the hard usage they have received. The husband who suspects another of seducing his wife, either kills one or both. The affair is taken up by the tribe, if the party belongs to another, who inflict punishment on him in the following manner.

The guilty party is furnished with a shield, and made to stand at a suitable distance, and the whole tribe cast their spears at him; his expertness and activity often enable him to escape any serious injury, but instances do occur in which the party is killed. Such punishments are inflicted with great formality, upon an appointed day, and the whole tribe assemble to witness it. The person most injured has the first throw, and it depends upon the feelings of the tribe respecting the offence committed, whether they endeavour to do injury to the culprit or not; and thus it may be supposed that there is some judgment evinced in this mode of punishment.

The following account of the burial of their dead was received from the missionary who was an eye-witness to it. He was called out one evening to see a native, who, they said, was dying. On repairing to the camp, he was too late, for the man was already dead, and, notwithstanding the short space of time that had elapsed, the corpse was already wrapped up for burial. The legs had been bent at the knees and hips, and tied to the body, and the head bent downwards towards the legs. In this position the corpse was enveloped in a blanket, and bound round with many ligatures, so as to form a shapeless lump. There were about fifty natives present, seated within a small space in front. The women were raising dismal lamentations and cutting themselves with sharp sticks; while the men were engaged in an earnest consultation as to the place which should be fixed upon for the burial. At length it was determined to be on the banks of the Macquarie, at no great distance from the mission station. On the following day the missionary proceeded to the place, and found that the natives had already cleared the grass from a space about twenty feet in diameter; in the centre of this the grave was marked out, of an oval shape, six feet long by three feet wide. After digging to the depth of about a foot, they left a ledge all around the grave of a few inches in width: the excavation, thus diminished in size was continued to the depth of five feet, the sides not being exactly perpendicular, but sloping slightly inwards. At the bottom of the grave was laid a bed of leaves, covered with an opossum-skin cloak, and having a stuffed bag of kangaroo-skin for a pillow; on this couch the body was laid, and the implements of hunting and war which the deceased had used during his lifetime were laid beside him. Leaves and branches of bushes were strewed over him, until the grave was filled up to the ledge or shelf above-mentioned. Across the grave were laid strong stakes, with the ends resting on this shelf, and on these a layer of stones, which filled the hole to the level of the soil. The excavated earth was then put over the whole, forming a conical heap eight or

nine feet high. The trees on each side were marked with irregular incisions, but whether intended as symbols, or merely to identify the place of sepulture, was not understood. All the time that this was going on, fires were kept burning around the place, to drive away evil spirits, and the women and children uttered loud lamentations, inflicting at the same time wounds upon themselves. When the grave was completed, all the women and children were ordered away, and the missionary, perceiving that it was expected that he would do the same, retired also. His presumption was, that they intended to give utterance to their grief, and that they were ashamed to do it in his presence, or before the women and children.

The day after the burial, the natives visited every spot in which they recollected to have seen the deceased, and fumigated it, for the purpose of driving away the evil spirits. They even went into the missionaries' houses, greatly to the annoyance of the ladies.

Their style of mourning consists in bedaubing themselves with pipe-clay; and a more hideous object than an old woman thus tricked out can hardly be conceived. The body and limbs are streaked with it, and the face completely covered, as with a mask, in which holes are left for the eyes, nostrils and mouth. The mask is gradually removed, until the last that is seen of it is a small patch on the top of the head.

They have some idea of a future state, although some assert that the whole man dies, and that nothing is left of him; while others are of opinion that his spirit yet lives, either as a wandering ghost, or in a state of metamorphosis, animating a bird, or other creature of a lower order than man.

During our stay at Sydney, a convict-ship arrived; and being desirous of obtaining a view of her accommodations, and the mode of treating the convicts, I visited her. This vessel was prepared expressly for the purpose. Between decks, a strong grated barricade, well spiked with iron, is built across the ship at the steerage bulkhead. This affords the officers a free view of all that is going on among the prisoners.

Bunks for sleeping are placed on each side all the way to the bow, resembling those in a guard-room. Each of these will accommodate five persons. There is no outlet but through a door in the steerage bulkhead, and this is always guarded by a sentry. Light and air are admitted through the hatches, which are well and strongly grated. The guard is under the command of a sergeant, and is accommodated in the steerage, the whole being under the orders of a surgeon, whose duty it is to superintend and regulate everything that relates to the prisoners, inspect the ship daily, and administer punishment, even unto death, if necessary. The surgeon also has control over the master of the vessel and his regulations. The master and mates, on receiving a certificate from the surgeon, are allowed a small sum for every convict landed, in addition to their pay.

The criminals have prison fare, and are supplied with woodenware for their eating utensils, which are kept in very nice order. The *quarter-deck* is barricaded near the main-mast, abaft of which

all the arms and accoutrements of the guard and vessel are kept. The master and officers are usually lodged in the poop-cabin. The prisoners are habituated to the discipline of the ship, on board the hulks, before leaving England. The usual, and most effectual, punishment for misbehaviour is to place the culprit in a narrow box on deck, in which he is compelled to stand erect. This punishment is said to be effectual in reducing the most refractory male convicts to order, but it was not found so efficacious in the female convict-ship; for, when put in the box, they would bawl so loudly, and use their tongues so freely, that it was found necessary to increase the punishment by placing a cistern of water on the top of the box. This was turned over upon those who persist in using their tongues, and acted on the occupant as a shower-bath, the cooling effect of which was always and quickly efficacious in quieting them. I was informed that more than two such showers were never required to subdue the most turbulent.

I was struck with the ruddy, healthy, and athletic looks of the young convicts that were arriving, and from their deportment and countenances I should hardly have been inclined to believe that they had been the perpetrators of heinous crimes.

The convicts on arriving are sent to the barracks at Sydney. The government selects from them such mechanics as are required for the public service, and then the numerous applicants for labourers are supplied. Those assigned to private employers are sent to the interior under the charge of a constable or overseer.

They build their own huts, and the climate being very fine, require but little shelter. The hours of labour are from six to six, and the quantity of labour exacted from them is about two-thirds of what would be required in England. They are treated in all respects as if they were free, and no restraint is imposed, except that they cannot leave their masters, who when they have no further use for them, return them to the government to be re-assigned.

When on ticket of leave, they may reside in any place they choose to select.

The convict's time of probation depends upon the original term of his sentence; but on a commission of crime within the colony, it begins from his last conviction. For refractory conduct, they may be taken to the nearest magistrate, who orders punishment on the oath of the master. The magistrate has also power to send them to the nearest chain-gang employed on public works. Here they are worked in irons, and kept on scanty food for a limited period, after which they may be returned to their masters. If badly treated, the convict may have the affair investigated, but redress comes slowly.

All persons who are landholders may receive convicts as assigned servants, in the proportion of one to every three hundred and twenty acres, but no one proprietor can have in his employ more than seventy-five convicts.

Written application for labourers is made to the Board of Assignment, and the applicants must bind themselves to keep the assigned

convict for at least one month, and to furnish him with food and clothing agreeably to the government regulations, which are as follows, viz.:

The weekly rations consist of twelve pounds of wheat, or nine pounds of seconds flour; or, in lieu thereof, at the discretion of the master, three pounds of maize meal, and nine pounds of wheat, or seven pounds of seconds flour; with seven pounds of beef or mutton, and four pounds of corned pork, two ounces of salt, and two ounces of soap.

The clothing for a year is as follows, viz.: two frocks or jackets, three shirts, of strong linen or cotton, two pairs of trowsers, three pairs of shoes, of stout durable leather, one hat or cap, and the use of a good blanket and mattress belonging to the master.

Custom, however, has extended the above allowance, and the quantity of luxuries added in tobacco, sugar, tea, and grog, makes the amount nearly double. These additions have become absolutely necessary in order to procure work from the convicts, and the free supply of them is the only way in which they can be made to work in the harvest season.

One of the evils attendant on the assignment system is the difference in the treatment they receive from those to whom they are assigned. On the arrival of a convict-ship, a large number of persons who have made applications to the Board are in waiting; they of course know nothing of the character of the convicts, and, as I learned from a good source, no record is kept, or sent with the convicts themselves. The Board is entirely ignorant of their character or crimes, and thus can exercise no discrimination in assigning the convict to the hands of a good or of a hard master. The greatest villains may, therefore, fall into kind hands, while one who is comparatively innocent may suffer much more than he deserves.

The punishment of transportation must continue very unequal until a classification be resorted to. Many convicts, by bad treatment, are confirmed in their vices.

The present system appears fitted to entail evil and misery on the colony, and there are few disinterested men who do not view it as calculated to prevent any moral improvement. Murders, robberies, and frauds are brought about by it, for which extreme punishments are of such frequent occurrence that it is a matter of astonishment that a stranger should remark that an execution had taken place. The day before our arrival five criminals had been hung, and more were to suffer in a few days. These executions take place without causing any unusual excitement.

The season of our visit to Sydney was that of their summer (December), and it was somewhat difficult for us to realise the luxuriance of vegetation about us. We could hardly become familiar with windows and doors entirely open at Christmas time.

As our departure drew near, one and all of us felt and expressed regret at leaving such kind friends. In very many places and families we had found ourselves at home, and were always received *with that kindness that* showed us we were welcome. The seasons,

with many other things, may be reversed, yet the hospitality of Old England is found here as warm and fresh as ever it was in the parent land. It would be impossible to mention all those to whom we feel indebted for various kindnesses and attentions, or even to cite those from whom the Expedition received many accessions to its collections. Notwithstanding I have mentioned many things that have struck us as requiring great reform, yet the whole impression left on my mind is, that it is a glorious colony, which the mother country, and the whole Anglo-Saxon race, may well be proud of, and that it ought to claim much more attention than it apparently does from the home government.

On the morning of the 26th of December, 1839, we weighed our anchors and stood to sea, and set about preparing the ship for the Antarctic cruise, the events of which will be detailed in the following chapters.

CHAPTER XVII.

ANTARCTIC CRUISE.

Preliminary Remarks—Disputed Claims of Priority of Discovery—Proceedings of the Squadron to the Second of January—Separation of the Flying-Fish and Peacock—First Iceberg seen—Fall in with the Icy Barrier—Porpoise lost sight of—Proceedings of the Peacock from the Third of January—Her Visit to Macquarie's Island—First Iceberg seen by her—She falls in with the Icy Barrier—Proceedings of the Porpoise—Sea-Elephants seen and taken—Land seen from all the Vessels—Proceedings of the Vincennes from the Sixteenth of January—She enters a deep Bay in the Barrier—Peacock and Porpoise seen—Peacock spoken—Land distinctly seen from the Vincennes and Peacock—Fight between a Whale and "Killer"—Proceedings of the Peacock—Soundings obtained by her—Her Perilous Situation and Providential Escape—Her crippled Condition—Captain Hudson resolves to return—His admirable Conduct, and that of his Officers and Crew.

THE subjects of which I am about to treat in the following chapters are exclusively nautical. I shall therefore adopt, in treating them, more of the form of a log-book, and follow the daily order of their occurrence with more strictness than I have hitherto considered necessary. This will be done in order to illustrate more fully the nature of the remote regions we traversed, and for the purpose of giving a more exact relation of the incidents of this part of our cruise—incidents that I cannot but hope have made this part of our labours particularly interesting to all of our countrymen who possess a feeling of national pride.

The credit of these discoveries has been claimed on the part of one foreign nation, and their extent, nay, actual existence, called into question by another; both having rival expeditions abroad, one at the same time, the other the year succeeding.

Each of these nations, with what intent I shall not stop to inquire, has seemed disposed to rob us of the honour by underrating the importance of their own researches, and would restrict the antarctic land to the small parts they respectively saw. However willing I might be in a private capacity to avoid contesting their statements, and let truth make its own way, I feel it due to the honour of our flag to make a proper assertion of the priority of the claim of the American expedition, and of the greater extent of its discoveries and researches.

That land does exist within the antarctic circle is now confirmed by the united testimony of both French and English navigators. D'Urville, the celebrated French navigator, within a few days after land was seen by the three vessels of our squadron, reports that his boats landed on a small point of rocks, at the place (as I suppose)

which appeared accessible to us in Piner's Bay, whence the Vincennes was driven in a violent gale; this he called Clarie Land, and testifies to his belief of the existence of a vast tract of land, where our view of it has left no doubt of its existence. Ross, on the other hand, penetrated to the latitude of 79° S. in the succeeding year, coasted for some distance along a lofty country connected with our antarctic continent, and establishes beyond all cavil the correctness of our assertion that we have discovered, not a range of detached islands, but a vast antarctic continent. I took care to forward to Captain Ross a full account of the proceedings of the squadron.* Although I have never received any acknowledgment of their receipt from him personally, yet I have heard of their having reached his hands a few months prior to his antarctic cruise. Of this, however, I do not complain, and feel only the justifiable desire to maintain the truth in relation to a claim that is indisputable. The following narrative must, I feel satisfied, leave no doubt in any unprejudiced mind of the correctness of the assertion, that we have discovered a vast continent; but I would ask in advance, who was there prior to 1840, either in this country or in Europe, that had the least idea that any large body of land existed to the south of New Holland; and who is there that now doubts the fact, whether he admits it to be a vast continent, or contends that it is only a collection of islands?

Examine all the maps and charts published up to that time, and upon them will any traces of such land be found? They will not, and for the very best of reasons—none was known or even suspected to exist. We ourselves anticipated no such discovery; the indications of it were received with doubt and hesitation; I myself did not venture to record in my private journal the certainty of land, until three days after those best acquainted with its appearance in these high latitudes were assured of the fact; and finally, to remove all possibility of doubt, and to prove conclusively that there was no deception in the case, views of the same land were taken from the vessels in three different positions, with the bearings of its peaks and promontories, by whose intersection their position is nearly as well established as the peaks of any of the islands we surveyed from the sea.

All doubt in relation to the reality of our discovery gradually wore away, and towards the close of the cruise of the Vincennes along the icy barrier, the mountains of the antarctic continent became familiar and of daily appearance, insomuch that the log-book, which is guardedly silent as to the time and date of its being first observed, now speaks throughout of "the land."

After leaving Sydney we had, until the 31st December, fine weather and favourable winds.

During this favourable weather, all hands were employed in tightening the ports, in order to secure the interior of the vessels as much as possible from the cold and wet, which were to be apprehended in the region to which we were bound. For this purpose, after caulking all the openings, the seams were covered

* See Appendix.

with tarred canvass, over which strips of sheet-lead were nailed. The sailors exhibited great interest in these preparations, and studiously sought to make everything snug; all useless articles were stowed away in the hold, for we were in truth full to overflowing.

Among other preparations, rough casings of boards were built around all the hatches, having doors furnished with weights and pulleys, in order to insure that they should not be left open. Having thus provided for the exclusion of cold air, I contented myself with preparations for keeping the interior of the vessel at a temperature no higher than 50°. I deemed this preferable to a higher temperature, in order to prevent the injurious effects which might be produced by passing suddenly from below to the deck. I conceived it far more important to keep the air dry than warm, particularly as a lower temperature would have the effect of inducing the men to take exercise for the purpose of exciting their animal heat.

Aware that warm and dry clothing was an object of the first importance, inspections of the men's feet and dress were held morning and evening, in which the wearing of a suitable number of garments was insisted upon, as well as the greatest personal cleanliness. With the same views, the drying-stoves were particularly attended to; and that every part under deck might be effectually and quickly freed of moisture, additional stoves had been procured at Sydney. Thermometers were hung up in proper places, and frequently consulted, in order by following their indications to secure an equable temperature, and at the time to ascertain when the use of stoves might be dispensed with, in whole or in part. The latter was an important consideration, for we were under the necessity of husbanding our stock of fuel, by expending it only when absolutely necessary.

We also took advantage of the fine weather to bend all our best sails, and to shift our top-gallant masts.

The 1st January, 1840, was one of those days which are termed, both at sea and on shore, a weather-breeder. The sea was smooth and placid, but the sky was in places lowering, and had a wintry cast, to which we had long been strangers; the temperature shortly began to fall, the breeze to increase, and the weather to become misty. In a few hours we were sailing rapidly through the water, with a rising sea, and by midnight it was reported that the tender Flying-Fish was barely visible. I shortened sail, but it was difficult to stop our way; and on the morning of the 2nd of January the fog was dense, and the Peacock and Porpoise only were in sight; we hove-to, and the Peacock and Porpoise were ordered to stand east and west, in order to intercept the tender, but they returned without success; we also fired guns, in hopes of being heard. In the afternoon, I deemed it useless to wait any longer for her, and that I must take the chance of falling in with her at Macquarie Island, our first appointed place of rendezvous—a visit to which I had flattered myself might have been avoided, but which it became *necessary* now to make. We accordingly proceeded on

our course for that island, with all sail set. This separation of the tender took place in the latitude of 48° S. The officers and crew were not slow in assigning to the Flying-Fish a similar fate with her unfortunate mate, the Sea-Gull. Men-of-war's men are prone to prognosticate evil, and on this occasion they were not wanting in various surmises. Woful accounts were soon afloat of the distress the schooner was in when last seen, and this in quite a moderate sea.

The barometer now began to assume a lower range, and the temperature to fall below 50°. On the 3rd, the fog continuing very thick, the Peacock got beyond hearing of our horns, bells, drums, and guns, and was parted with. This, however, I did not now regret so much, as it was of little consequence whether we sought one or two vessels at our rendezvous, although it might cause a longer detention there.

The morning of the 7th was misty, with squally weather. A heavy sea rising, and a strong gale setting in, we lost sight of the Porpoise for a few hours. Being unable to see beyond an eighth of a mile, it was thought imprudent to run, for fear of passing Macquarie Island, and we hove-to to await its moderating. It cleared at noon, and we obtained an observation, by which we found ourselves in latitude 54° 20′ S., and longitude 160° 47′ E.; that we had been carried to the eastward upwards of twenty miles in less than eighteen hours; this, with the wind hauling to the south-west, brought us to leeward of this island, and the sea and wind increasing, I saw it was useless to attempt to reach it without great loss of time. I therefore bore off to the southward for our second rendezvous, Emerald Island, or its supposed locality.

During the 9th we passed the site of Emerald Island, but saw nothing of it, nor any indications of land, which I therefore infer does not exist in the locality where it is laid down. We again experienced the south-east current of twenty miles a day. Our variation had increased to twenty-two degrees easterly. Making our course with all sail set, the Porpoise in company, we passed to-day some pieces of kelp. The temperature continued at 38°. Numerous flocks of gray petrels around us.

The 10th we encountered the first iceberg, and the temperature of the water fell to 32°. We passed close to it, and found it a mile long, and one hundred and eighty feet in height. We had now reached the latitude of 61° 8′ S., and longitude 162° 32′ E. The second iceberg seen was thirty miles, and the third about fifty-five miles south of the first. These ice-islands were apparently much worn by the sea into cavities, exhibiting fissures as though they were ready to be rent asunder, and showed an apparent stratification, much inclined to the horizon. The weather now became misty, and we had occasionally a little snow. We continued to meet icebergs of different heights, some of which, though inclined to the horizon, had a plane upper surface.

The fair wind from the north-west (accompanied with a light mist, rendering objects on the horizon indistinct) still enabled us to pursue our course southerly. Icebergs became so numerous as to

compel us occasionally to change our course. They continued of the same character, with caverns worn in their perpendicular sides, and with flat tops, but the latter were now on a line with the horizon. Towards 6 P. M. of the 11th, we began to perceive smaller pieces of ice, some of which were not more than an eighth of a mile in length, floating, as it were, in small patches. As the icebergs increased in number, the sea became smoother, and there was no apparent motion. Between 8 and 9 P. M., a low point of ice was perceived ahead, and in a short time we passed within it. There was now a large bay before us. As the vessels moved rapidly, at 10½ P. M. we had reached its extreme limits, and found our further progress entirely stopped by a compact barrier of ice, enclosing large square icebergs. The barrier consisted of masses closely packed, and of every variety of shape and size. We hove-to until full daylight. The night was beautiful, and every thing seemed sunk in sleep, except the sound of the distant and low rustling of the ice, that now and then met the ear. We had now reached the latitude of 64° 11′ S., longitude 164° 30′ E., and found our variation twenty-two degrees easterly. One and all felt disappointed, for we had flattered ourselves that the way was open for further progress to the southward, and had imbibed the impression that the season would be an open one. What surprised me most was a change in the colour of the water to an olive-green, and some faint appearances resembling distant land; but as it was twilight, and I did not believe the thing credible, I put no faith in these indications, although some of the officers were confident they were not occasioned by icebergs. The barometer stood at 29.200 in.; the temperature of the air 33°, water 32°. We lay-to until four o'clock. As it grew light, on the 12th, a fog set in so thick that we lost sight of the Porpoise, and could not hear any answer to our signals. I therefore determined to work along the barrier to the westward.

We were all day beating in a thick fog, with the barrier of ice close to us, and occasionally in tacking brought it under our bow; at other times we were almost in contact with icebergs. During the whole day we could not see at any time further than a quarter of a mile, and seldom more than the ship's length. The fog, or rather thick mist, was forming in ice on our rigging. From the novelty of our situation, and the excitement produced by it, we did not think of the danger.

I shall now leave the Vincennes and Porpoise pursuing their course to the westward with a head-wind, and bring the Peacock up to the barrier.

Previously to parting company on the 3rd of January, the crew of that ship had also been engaged in building hurricane houses, caulking, and chintzing, to secure them from the wet and cold. After parting company, Captain Hudson immediately steered for the first rendezvous, Macquarie Island, and was more fortunate than we were in reaching it, although the Peacock had experienced the same kind of weather that we had, and currents setting to the eastward.

On approaching the island, they discovered large patches of kelp, and saw numerous Procellaria and albatrosses about the ship. On

the 10th of January they made the island, and observed a reef of rocks extending three-quarters of a mile off its south end. Passing within a short distance of it, they did not observe any of the signals of the squadron flying, as they had anticipated. They, notwithstanding, stood in, lowered a boat, and dispatched several officers to put up the signal, make experiments, and collect specimens. The boat approached an indentation on the west side, too open to be called a bay, and found that the surf was running high, and beating with great violence against the rocks, which, together with the kelp, rendered it dangerous to attempt landing. They made for several other places which looked favourable at a distance, but on approaching them, they were found even less accessible. The boat then returned to the first place to make another attempt, which was attended with great difficulty. The boat's anchor was dropped, and she was backed in with great caution to the edge of the rollers; the surf was very high, and rolled in with a noise like thunder, breaking furiously upon the rocks, so as to make the boat fairly tremble, and threatening every moment to overwhelm her; once or twice she was prevented from getting broadside-to, by hauling out towards her anchor. At length, after a dozen fruitless attempts, and awaiting a favourable opportunity, Mr. Eld and a quarter-master succeeded in getting ashore, but not without being immersed up to their breasts. It was found impossible to land any instruments; and the quarter-master was dispatched to erect the necessary signals, while Mr. Eld proceeded to visit the penguin rockery not far distant. On approaching the island, it had appeared to be covered with white spots: these excited conjecture; but after landing, the exhalations rendered it not long doubtful that it was birdlime.

Mr. Eld, in his journal, gives the following account of his visit: "Although I had heard so often of the great quantity of birds on the uninhabited islands, I was not prepared to see them in such myriads as here. The whole sides of the rugged hills were literally covered with them. Having passed a deep fissure in the rocks, I ascended a crag that led to what I thought was their principal roost, and at every step my astonishment increased. Such a din of squeaking, squalling, and gabbling, I never before heard or dreamed could be made by any of the feathered tribe. It was impossible to hear one's self speak. It appeared as if every one was vying with his neighbour to make the greatest possible noise. I soon found my presence particularly displeased them, for they snapped at me in all directions, catching hold of my trowsers, shaking and pinching my flesh so violently as to make me flinch and stand upon the defensive. As we wanted a number of specimens, I commenced kicking them down the precipice, and knocked on the head those which had the temerity to attack me. After having collected a number, and a few eggs, I laid them aside, whilst I ascended higher on the hill. I had not left them more than eighteen feet, before two albatrosses came down, and commenced picking at the dead birds I had just killed, but not being able to make any impression upon them, deliberately picked up two of the eggs with their beaks, and in spite of my efforts to prevent it, *flew away* with them. The eggs were about the size of a goose's;

the original colour seemed to have been white, but they were so dirty that it was difficult to say with certainty. They were no doubt the eggs of the penguin, as I took them out of their nest, which was only a small place scratched in the earth, just big enough to hold one or two eggs, with little or no grass, sticks, or anything else to form a nest of. I afterwards picked up a number of these eggs, and another was found of the size of a hen's egg, white, with a slight tinge of green. On mounting the hill still higher, which was very steep, and composed of volcanic rock, loose stones, and a little soil mixed with birdlime, I found that there were more of these birds than I anticipated. The nests were within two feet of each other, with one or two young ones in each; one of the old ones watching and sitting on the nest, whilst the young were trying ineffectually to nestle themselves under the small wings of the old ones. The appearance of the young was not unlike that of goslings, being covered with a dark thick down.

"These penguins are the Eudyptes chrysocome; they are from sixteen to twenty inches in height, with white breast, and nearly black back, the rest being of a dark dove colour, with the exception of the head, which is adorned on each side with four or five yellow feathers, three or four inches long, looking like graceful plumes. The birds stand erect in rows, which gives them the appearance of Lilliputian soldiers. The sight was novel and beautiful, and had it not been for the gabble—enough to deafen me—I could have stayed much longer. It was now time to return to the boat, when it occurred to me that live birds would be preferable to the dead; so throwing the latter down, I seized one old, and a couple of young ones, and, with three or four eggs in my cap, made the best of my way to the boat. It was now found impossible to hand them on board, and not willing to surrender my prize, a lead-line was thrown me from the boat, but did not come near enough, and in my attempts to get it, I was overtaken by a sea, and was thrown violently against the rocks among the kelp, and just made out to crawl on hands and knees beyond the reach of the returning sea, somewhat bruised, wet, and benumbed with the cold."

At this juncture the quarter-master returned with a large species of penguin over his shoulders, but without the crown of feathers on his head. He described a similar rookery, and also saw some green parroquets with a small red spot on the head, and an oblong slaty or purple spot at the root of the bill, and with straight beaks. Mr. Eld was too much exhausted to return with him to get specimens, and the hour being late, it was necessary to return to the boat, which had been waiting for some time for them. The quarter-master succeeded in getting his penguins to the boat, but Mr. Eld's began floundering about, and, although their legs were tied, managed to get into the water, where they were at home, and were soon out of reach. The tying of the legs did not seem any impediment to their exertions in the water, and thus several interesting specimens of natural history were lost, the trouble that it cost making them doubly valuable. With great difficulty Mr. Eld reached the boat; for, having again missed his foothold, he fell among the kelp, but by the timely aid of

those on board, he was rescued. After an hour's tug at their oars, they reached the ship in safety.

The island is high and much broken; it is apparently covered with verdure, although a long tufted rank grass was the only plant seen by those who landed.

The highest peak on the island is from twelve to fifteen hundred feet high, and as far as our observation extended, it had neither tree nor shrub on it.

On the 13th, in latitude 61° 30′ S., longitude 161° 5′ E., the first ice-islands were seen.

There was no occasion on the night of the 13th to light the binnacle lamps, as newspaper print could be read with ease at midnight. On the 14th, while still making much progress to the south, and passing occasionally icebergs and brash ice, the water appeared somewhat discoloured.

On the 15th they passed many ice-islands. Many whales were seen; albatrosses, petrels, and Cape pigeons were frequent about the ship. At 4 P.M., the mist raised a little, and to their surprise they saw a perfect barrier of ice, extending to the south-west, with several large icebergs enclosed within it. Shortly after they discovered a sail, which proved to be the Porpoise.

The Vincennes and Porpoise were left in our narrative near the icy barrier, separated by the fogs and mists that prevailed at times. The Porpoise, on the 13th, in latitude 65° 8′ S., longitude 163° E., discovered several sea-elephants on the ice. A boat was sent, and succeeded in capturing a female. From the numerous sea-elephants, and the discolouration of the water and ice, they were strongly impressed with the idea of land being in the vicinity, but on sounding with one hundred fathoms, no bottom was found; Lieutenant-Commandant Ringgold felt convinced, from the above circumstances, and the report that penguins were heard, that land was near, and thought he could discern to the south-east something like distant mountains. A nearer approach was impossible, as they were then in actual contact with the icy barrier.

On the 14th, two sea-elephants were captured and brought on board; they proved to be the Phoca proboscidea. Dr. Holmes examined their stomachs, and found nothing but well-digested food. Their dimensions were as follows:

Total length	10 ft. 9 in.
Length of posterior flipper	1 „ 9 „
Breadth	2 „ 4 „
Circumference of largest part of body	6 „ 3 „

This was a young female. The other was taken afterwards; he measured—

In length	8 ft. 6 in.
Greatest circumference behind anterior flipper	5 „ 0 „
Length of flippers	1 „ 5 „
Breadth	1 „ 5 „

On the 15th the Peacock and Porpoise were in company: and, after having had communication with each other, the vessels again *separated*, standing on opposite tacks.

On the 16th the three vessels were in longitude 157° 46′ E., and all within a short distance of each other. The water was much discoloured, and many albatrosses, Cape pigeons, and petrels, were seen about the ships. On board the Vincennes, we sounded with two hundred and thirty fathoms, and found no bottom; the water had the appearance of an olive-green colour, as if but forty and fifty fathoms deep.

On this day (16th January) appearances believed at the time to be land were visible from all the three vessels, and the comparison of the three observations when taken in connection with the more positive proofs of its existence afterwards obtained, has left no doubt that the appearance was not deceptive. From this day, therefore, we date the discovery which is claimed for the squadron.

On board the Peacock, it appears that Passed Midshipmen Eld and Reynolds both saw the land from the mast-head, and reported it to Captain Hudson: he was well satisfied on examination that the appearance was totally distinct from that of ice-islands, and a majority of the officers and men were also satisfied, that if land could exist that was it.

I mention particularly the names of these two gentlemen, because they have stated the same fact under oath before the court-martial, after our return.

On board the Porpoise, Lieutenant-Commandant Ringgold states, that "he went aloft in the afternoon, the weather being clear and fine, the horizon good, and clouds lofty; that he saw over the field-ice, an object, large, dark, and rounding, resembling a mountain in the distance; the icebergs were all light and brilliant, and in great contrast." He goes on to say, in his report, "I watched for an hour to see if the sun in his decline would change the colour of the object; it remained the same, with a white cloud above, similar to that hovering over high land. At sunset the appearance remained the same. I took the bearings accurately, intending to examine it closely as soon as we got a breeze. I am thoroughly of opinion it is an island surrounded by immense fields of ice. The Peacock in sight to the southward and eastward over the ice; the sun set at a few minutes before ten; soon after, a light air from the southward, with a fog-bank arising, which quickly shut out the field-ice."

In Passed Midshipman Eld's journal, he asserts that he had been several times to the mast-head during the day, to view the barrier; that it was not only a barrier of ice, but one of terra firma. Passed Midshipman Reynolds and himself exclaimed, with one accord, that it was land. Not trusting to the naked eye, they descended for spy-glasses, which confirmed, beyond a doubt their first impressions. The mountains could be distinctly seen, over the field-ice and bergs, stretching to the south-west as far as anything could be discerned. Two peaks, in particular, were very distinct (which I have named after those two officers), rising in a conical form; and others, the lower parts of which were quite as distinct, but whose summits were lost in light fleecy clouds. Few clouds were to be seen in any other direction, for the weather was remarkably clear. The sun shone brightly on ridge after ridge, whose sides were partially bare; these

connected the eminences I have just spoken of, which must be from one to two thousand feet high. Mr. Eld further states, that, on reporting the discovery to Captain Hudson, the latter replied that there was no doubt of it, and that he believed that most of the icebergs then in sight were aground. At this time they were close in with the barrier, and could approach no nearer.

The log-book of the Porpoise has also this notice in it: "From six to eight, calm and pleasant—took in studding-sails; at seven set maintopgallant-studding-sail; discovered what we took to be an island, bearing south by east—a great deal of field-ice in sight; noticed penguins around the brig. (Signed) J. H. North." Dr. Holmes, on the same evening, noted in his journal a marked appearance of land.

On board the Vincennes there was on the same day much excitement among the crew. All eagerly watched the flight of birds, together with the whales and penguins, and spoke of the proximity of land, which, from the appearance of never-failing signs, could scarcely be doubted.

The field-ice is composed of a vast number of pieces, varying in size, and separated from one another, the long swell keeping the outer ones always in motion. The smallest pieces are about six feet in diameter, while the largest sometimes exceeded five or six hundred feet. Their depth below the surface varies still more, and some appear to be soft, whilst others were hard and compact. The depth of these does not probably in any case exceed twenty feet. Most of them, and particularly the larger ones, had a covering of about eighteen inches of snow. The whole at a distance appeared like a vast level field, broken up as it were by the plough, and presenting shapeless angular masses of every possible figure, while here and there a table-topped iceberg was enclosed.

This night we were beating with frequent tacks, in order to gain as much southing as possible. Previous to its becoming broad daylight, the fog rendered everything obscure, even at a short distance from the ship. I knew that we were in close proximity to icebergs and field-ice, but, from the report of the look-out at sunset, believed that there was an opening or large bay leading to the southward. The ship had rapid way on her, and was much tossed about, when in an instant all was perfectly still and quiet; the transition was so sudden, that many were awakened by it from sound sleep, and all well knew, from the short experience we had had, that the cessation of the sound and motion usual at sea, was a proof that we had run within a line of ice—an occurrence from which the feeling of great danger is inseparable. The watch was called by the officer of the deck, to be in readiness to execute such orders as might be necessary for the safety of the ship. Many of those from below were seen hurrying up the hatches, and those on deck straining their eyes to discover the barrier in time to avoid accident. The ship still moving rapidly along, some faint hope remained that the bay might prove a deep one, and enable me to satisfy my sanguine hopes and belief relative to the land.

The feeling is awful, and the uncertainty most trying thus to enter within the icy barrier, blindfolded as it were by an impenetrable fog,

and the thought constantly recurring that both ship and crew were in imminent danger; yet I was satisfied that nothing could be gained but by pursuing this course. On we kept, until it was reported to me, by attentive listeners, that they heard the low and distant rustling of the ice; suddenly a dozen voices proclaimed the barrier to be in sight, just ahead. The ship, which a moment before seemed as if unpeopled, from the stillness of all on board, was instantly alive with the bustle of performing the evolutions necessary to bring her to the wind, which was unfavourable to a return on the same track by which we had entered. After a quarter of an hour, the ice was again made ahead, and the full danger of our situation was realised. The ship was certainly embayed; and although the extent of sea-room to which we were limited was rendered invisible by the dark and murky weather, yet that we were closely circumscribed was evident from having made the ice so soon on either tack, and from the audible rustling around us. It required several hours to extricate the ship from this bay.

Few are able to estimate the feelings that such an occasion causes to a commander, who has the responsibility of the safety of the ship and crew operating as a heavy weight upon his heart, and producing a feeling as if on the verge of some overwhelming calamity. All tends to satisfy him that nothing could guide him in safety through, or shield from destruction those who have been entrusted to his charge, but the hand of an all-wise Providence.

17th. In the morning we discovered a ship apparently within a mile of us, to which we made signal and fired a gun, but she was shortly afterwards lost sight of. We also saw the brig to the eastward, close to the barrier of ice. In the afternoon we spoke the Peacock: she had not seen us in the morning; and I am disposed to believe that the cause of her image appearing so close to us in the morning was produced by refraction above a low fog-bank; but the usual accompaniment of such phenomena, a difference of temperature below and aloft, did not exist.

I now desired Captain Hudson to make the best use of his time in exploring, as to attempt to keep company would only impede our progress, and without adding to our safety, might prevent the opportunity of examining the barrier for an opening. I was also satisfied that the separation would be a strong incentive to exertion, by exciting rivalry among the officers and crews of the different vessels. Many petrels, albatrosses, a few whales, and a seal, were seen from the ship; and the water was quite green.

18th. The weather this day was variable, with light westerly winds; the temperature of air and water 32°. Occasional squalls of snow and mist occurred, but it was at times clear. The water was still olive-green; and the other vessels occasionally in sight, beating to windward.

On the morning of the 19th, we found ourselves in a deep bay, and discovered the Peacock standing to the south-west. Until eight o'clock, A. M., we had a moderate breeze. The water was of a darker olive-green, and had a muddy appearance. Land was now certainly

visible from the Vincennes, both to the south-south-east and south-west, in the former direction most distinctly. Both appeared high. It was between eight and nine in the morning when I was fully satisfied that it was certainly land, and my own opinion was confirmed by that of some of the oldest and most experienced seamen on board. The officer of the morning watch, Lieutenant Alden, sent twice, and called my attention to it. We were at this time in longitude 154° 30′ E., latitude 66° 20′ S.; the day was fine, and at times quite clear, with light winds. After divine service, I still saw the outline of the land, unchanged in form, but not so distinct as in the morning. By noon, I found we were sagging on to the barrier; the boats were lowered in consequence, and the ship towed off. The report from aloft was, "A continued barrier of ice around the bay, and no opening to be seen, having the western point of it bearing to the northward of west of us. I stood to the westward, to pass around it, fully assured that the Peacock would explore all the outlines of the bay.

The Peacock, at 3h. 30m., according to Captain Hudson's journal, having got into the drift-ice, with a barrier still ahead to the west, tacked to the south-east to work up for an immense mass, which had every appearance of land, and which was believed to be such by all on board. It was seen far beyond and towering above an ice-island that was from one hundred and fifty to two hundred feet in height. It bore from them about south-west, and had the appearance of being three thousand feet in height, forming a sort of amphitheatre, looking gray and dark, and divided into two distinct ridges or elevations throughout its entire extent, the whole being covered with snow. As there was no probability of getting nearer to it in this quarter, they stood out of the bay, which was about twenty miles deep, to proceed to the westward, hoping to get an opportunity to approach the object more closely on the other side.

We had a beautiful and unusual sight presented to us this night; the sun and moon both appeared above the horizon at the same time, and each throwing its light abroad. The latter was nearly full. The former illuminated the icebergs and distant continent with his deep golden rays; while the latter, in the opposite horizon, tinged with silvery light the clouds in its immediate neighbourhood. There now being no doubt in any mind of the discovery of land, it gave an exciting interest to the cruise, that appeared to set aside all thought of fatigue, and to make every one willing to encounter any difficulty to effect a landing.

20th. This day, on board the Peacock they witnessed a sea-fight between a whale and one of its many enemies. The sea was quite smooth, and offered the best possible view of the whole combat. First, at a distance from the ship, a whale was seen floundering in a most extraordinary way, lashing the smooth sea into a perfect foam, and endeavouring apparently to extricate himself from some annoyance. As he approached the ship, the struggle continuing and becoming more violent, it was perceived that a fish, apparently about twenty feet long, held him by the jaw, his contortions, spouting, and throes all betokening the agony of the huge monster. The whale now threw

himself at full length from the water with open mouth, his pursuer still hanging to the jaw, the blood issuing from the wound and dyeing the sea to a distance around; but all his flounderings were of no avail; his pertinacious enemy still maintained his hold, and was evidently getting the advantage of him. Much alarm seemed to be felt by the many other whales around. These "killers," as they are called, are of a brownish colour on the back, and white on the belly, with a long dorsal fin. Such was the turbulence with which they passed, that a good view could not be had of them to make out more nearly the description. These fish attack a whale in the same way as dogs bait a bull, and worry him to death. They are armed with strong sharp teeth, and generally seize the whale by the lower jaw.

There was a great quantity of animalculæ in the water, and some large squids (Medusæ) and quantities of shrimp were frequently seen about the icebergs; these are no doubt the attractions which bring whales to frequent these seas.

The last two days we had very many beautiful snow-white petrels about. The character of the ice had now become entirely changed. The tabular-formed icebergs prevailed, and there was comparatively little field-ice. Some of the bergs were of magnificent dimensions, one-third of a mile in length, and from one hundred and fifty to two hundred feet in height, with sides perfectly smooth, as though they had been chiselled. Others again exhibited lofty arches of many-coloured tints, leading into deep caverns, open to the swell of the sea, which rushing in, produced loud and distant thunderings. The flight of birds passing in and out of these caverns, recalled the recollection of ruined abbeys, castles, and caves, while here and there a bold projecting bluff, crowned with pinnacles and turrets, resembled some gothic keep. A little further onwards would be seen a vast fissure, as if some powerful force had rent in twain these mighty masses. Every noise on board, even our own voices, reverberated from the massive and pure white walls. These tabular bergs are like masses of beautiful alabaster; a verbal description of them can do little to convey the reality to the imagination of one who has not been among them. If an immense city of ruined alabaster palaces can be imagined, of every variety of shape and tint, and composed of huge piles of buildings grouped together, with long lanes or streets winding irregularly through them, some faint idea may be formed of the grandeur and beauty of the spectacle. The time and circumstances under which we were viewing them, threading our way through these vast bergs, we knew not to what end, left an impression upon me of these icy and desolate regions that can never be forgotten.

22nd. It was now, during fine weather, one continued day; but we had occasional snow-squalls that produced an obscurity that was tantalising. The bergs were so vast and inaccessible, that there was no possibility of landing upon them.

The Peacock and Porpoise were in sight of each other this day. A large number of whales, albatrosses, petrels, penguins, &c., were seen around, and a flock of ducks was also reported as having been

seen from the Vincennes, as well as several seals. The effect of sunrise, at a little after 2 A.M., on the 23rd, was glorious.

As the events which occurred on board the Peacock during the next few days are particularly interesting, I shall proceed to narrate them in detail, leaving the Vincennes and Porpoise to pursue their route along their dangerous and novel pathway.

The Peacock stood into the bay which the Vincennes had found closed the day before, and saw the same appearance of high land in the distance. The water was much discoloured, and of a dark dirty green. They hove-to, for the double purpose of getting a cast of the lead, and of lowering the boats to carry the instruments to a small iceberg, on which it was possible to land, for the purpose of making magnetic observations. A line of one thousand four hundred fathoms was prepared to sound, and to the lead was attached a cylinder with Six's thermometer. The wind being fresh, several leads at different distances were attached to the line. They were not aware that the lead-line had touched bottom, until they began to haul in, when it was found that the lead bent on at five hundred fathoms was filled with blue and slate-coloured mud. Attached to the lead also was a piece of stone, and a fresh bruise on it, as though the lead had struck heavily on rock.

The remainder of the line had evidently lain on the bottom, as the copper cylinder was covered with mud, and the water inside of it was quite muddy. They then beat up a short distance to windward, and again sounded, when, with the line hanging vertically, bottom was reached at three-hundred and twenty fathoms; the matter brought up was slate-coloured mud. The temperature of the water at the surface was 32°, and at the above depth 27½°, being a decrease of 4½°.

The boats now returned, and on approaching the ship the persons in them were much startled by hearing the crew cheer ship in consequence of finding soundings. This was a natural burst of joy, on obtaining this unquestionable proof that what they saw was indeed the land; a circumstance that, while it left no doubt, if any had existed, in the mind of any one on board the Peacock, that what they had previously seen was truly terra firma, furnished a proof that cannot be gainsayed, even by those disposed to dispute the evidence of sight, unsupported by so decisive a fact. Mr. Eld and Mr. Stuart, in the boats, succeeded in getting observations, and the mean dip by the needles was 86° 16′.

Mr. Eld's boat succeeded in taking a king-penguin of enormous size, viz: from tip of tail to the bill forty-five inches; across the flippers thirty-seven inches; and the circumference of the body thirty-three inches. He was taken after a truly sailor-like fashion, by knocking him down. The bird remained quite unmoved on their approach, or rather showed a disposition to come forward to greet them. A blow with the boat-hook, however, stunned him, and before his recovery he was well secured. He showed, on coming to himself, much resentment at the treatment he had received, not only by fighting, but by an inordinate noise. He was in due time preserved as a specimen, and now graces the collection at Washington.

In his craw were found thirty-two pebbles, from the size of a pea to that of a hazel-nut.

24th. Bergs and field-ice were in various directions around. They had light baffling winds, clear and pleasant weather, with a smooth sea. The water was of a dark green colour. Standing into the bay for the purpose of approaching the land, they at 5 A.M. passed through drift-ice into an open space, and when they had again approached the field, hove-to for the purpose of sounding. Here bottom was found at the depth of eight-hundred fathoms; and the matter brought up was similar to that obtained the day before. The distance between the points where these two soundings were obtained was but short.

At 8h. 30m. A.M., while attempting to box off the ship from some ice under the bow, she made a stern-board, which brought the stern so forcibly in contact with another mass of ice, that it seemed from the shock as if it were entirely stove in; the rudder was so much canted from its position, as to carry away the starboard wheel-rope, and to wrench the neck of the rudder itself in such a manner as to render it unserviceable, or even worse than useless. In hopes of lessening the difficulty, relieving-tackles were applied to the tiller, but without effect, for it was discovered that the rudder had been so far twisted as to make a considerable angle with the keel, and every exertion to move it proved ineffectual.

All hands were now called, and every officer and man was speedily at his station. The ship was found to be rapidly entering the ice, and every effort to direct her course by the management of the sails proved fruitless. In this helpless condition scarcely a moment passed without a new shock in some quarter or other from the ice, and every blow threatened instant destruction. The hope was not yet abandoned, that some temporary expedient might be found to bring the rudder again into use, until they should be extricated from this perilous situation. A stage was, therefore, rigged over the stern, for the purpose of examining into its state, but it was found to be so much injured that it was impossible to remedy its defects while in its place, and preparations were forthwith made for unshipping it. In the mean time the position of the vessel was every instant growing worse, surrounded as she was by masses of floe-ice, and driving further and further into it, towards an immense wall-sided iceberg. All attempts to get the vessel on the other tack failed, in consequence of her being so closely encompassed, and it was therefore thought expedient to attempt to bring her head round, by hanging her to an iceberg by the ice-anchors, and thus complete what had been partially effected by the sails. The anchor was attached, but just at the moment the hawser was passed on board, the ship took a start so suddenly astern, that the rope was literally dragged out of the men's hands before they could get a turn around the bits.

The ship now drove stern foremost into the midst of the huge masses of ice, striking the rudder a second time. This blow gave it the finishing stroke, by nearly wringing off the head, breaking two of the pintles, and the upper and lower brace.

The wind now began to freshen, and the floe-ice to set upon the

ship. The sails were furled, and spars rigged up and down the ship's sides as fenders. Attempts were again made to plant the ice-anchors, for which purpose the boats were lowered; but the confined space, and the force with which the pieces of ice ground against each other was so great, that the boats proved nearly as unmanageable as the ship. After much exertion, however, the ice-anchors were planted, and the hawser hauled taut. Here they for a time enjoyed comparative security, as the vessel hung by the anchors, which were planted in a large floe. The ice continued to close in rapidly upon them, grinding, crushing and carrying away the fenders; and the wind that had changed to seaward, rose with appearances that foreboded bad weather.

At 10h. 30m. this security was at an end; for the anchors, in spite of the exertions of the officers and men who were near them, broke loose, and the ship was again at the mercy of huge floating masses. A rapid stern-board was the consequence; and a contact with an ice-island, vast, perpendicular, and as high as the mast-heads, appeared inevitable.

Every possible preparation was made to meet the expected shock. There was no noise or confusion, and the self-possession and admirable conduct of the commander inspired courage and confidence in all. Preparations were made to cockbill the yards, and spars were got out.

While these preparations were going forward, the imminence of the danger lessened for a while; the anchors again held, and there was a hope that they might bring the vessel up before she struck. This hope, however, endured but for a moment; for the anchors, with the whole body of ice to which they were attached, came in, and the ship going astern, struck quartering upon a piece of ice which lay between her and the great ice-island. This afforded the last hope of preventing her from coming in contact with it; and this hope failed also; for, grinding along the ice, she went nearly stern foremost, and struck with her larboard quarter upon the ice-island with a tremendous crash.

The first effect of this blow was to carry away the spanker-boom, the larboard stern-davit, and to crush the stern-boat. The starboard stern-davit was the next to receive the shock, and as this is connected with the spar-deck bulwarks, the whole of them were started; the knee, a rotten one, which bound the davit to the taffrail, was broken off, and with it all the stanchions to the plank-sheer, as far as the gangway.

Severe as was this shock, it happened fortunately that it was followed by as great a rebound. This gave the vessel a cant to starboard, and by the timely aid of the jib, and other sails, carried her clear of the ice-island, and forced her into a small opening. While doing this, and before the vessel had moved half her length, an impending mass of ice and snow fell in her wake. Had this fallen only a few seconds earlier, it must have crushed the vessel to atoms.

It was also fortunate that the place where she struck the ice-*island* was near its southern end, so that there was but a short

distance to be passed before she was entirely clear of it. This gave more room for the drifting ice, and permitted the vessel to be worked by her sails.

The relief from this pressing danger, however gratifying, gave no assurance of ultimate safety. The weather had an unusually stormy appearance; and the destruction of the vessel seemed almost inevitable, with the loss of every life on board. They had the melancholy alternative in prospect of being frozen to death one after the other, or perishing in a body by the dissolving of the iceberg on which they should take refuge, should the vessel sink.

When the dinner hour arrived the vessel was again fast in the ice, and nothing could for a time be done; it was therefore piped as usual. This served to divert the minds of the men from the dangers around them.

When the meal was over, the former manœuvring was resorted to, the yards being kept swinging to and fro, in order to keep the ship's head in the required direction. She was labouring in the swell, with ice grinding and thumping against her on all sides; every moment something either fore or aft was carried away—chains, bolts, bobstays, bow-sprit, shrouds; even the anchors were lifted, coming down with a surge that carried away the eye-bolts and lashings, and left them to hang by the stoppers. The cut-water also was injured, and every timber seemed to groan.

Similar dangers attended those in the boats. Passed Midshipman Eld was sent to plant the ice-anchors; there was no room for the use of oars; the grinding and grating of the ice, as it rose and fell with the swell, rendered great precaution necessary to prevent the boat from being swamped or crushed; and when it is stated that two hours of hard exertion were required to plant the ice-anchors, some idea of the difficulty attending this service will be had. But this was not all; the difficulty of returning was equally great, and no possible way of effecting it seemed to suggest itself. The sides of the icebergs could not be ascended, and to approach the berg on the side next the ship was certain destruction to the boat and crew, for the ice and water were foaming like a cauldron; and to abandon the former was equally out of the question. At last a chance offered, although almost a hopeless one, by passing between two of these bergs, that appeared on the other side of a small clear space. The boat was upon a small piece of ice, from which, by great exertion, she was launched; a few pulls at the oars brought them to the passage; the bergs were closing fast, and agitated by the swell; no time, therefore, was to be lost; the danger was already great, and in a few seconds it would be impossible to pass. They entered; their oars caught, and they got but half-way through when the icebergs closed in upon them, and pressed the gunwales together, so as almost to crush the boat; the water entered her, and she was near sinking, when the berg stopped, retreated, and by another hard shove they went through, and were soon alongside of the ship.

Every exertion was now made to work the ship and avoid heavy thumps from the ice. The mode resorted to, to get the ship about, *was a novel one,* namely, by urging her lee bow against a piece of

ice, which had the same effect as giving her a lee helm ; but this was found rather too expensive a mode of effecting the object, and on the pumps showing an increase of water, it was discontinued. The ice had been rapidly accumulating around the ship, contracting still more narrowly the space or area in which they were, and rendering their situation more hazardous.

At 4 P.M., they clewed up the topsails, the ship being fast in the ice, with the wind directly in from the seaward. The ice-anchors were now again run out, in hopes of relieving her from some of the strain. A short time afterwards the ice clearing from the stern enabled them to unship the rudder, which was taken on board in two pieces ; it was immediately placed on the quarter-deck, and all the carpenters employed on it.

It soon began to snow violently, and no clear sea could be seen from the ship in any direction. It becoming obscure, the chance was that they would have to take up their last abode there. About six o'clock the weather cleared a little, and the wind freshened ; they parted the hawser attached to the ice-anchor, and made sail again for the clear sea, which could now be seen from the mast-head. Towards 8 P.M., as if to blast the little hope that the continuance of clear weather inspired, the ship took a wrong cant, and was forced into a small opening leading further into the ice to leeward, and towards the massive walls of the berg. Great exertions were made, and fortunately, by the aid of the ice-anchors and sails, they succeeded in getting her round, and her head again pointed towards the clear sea ; but they were shortly afterwards wedged in between two large masses of ice. At midnight the sea was observed to rise, although the wind had not increased, causing much motion among the ice ; and the stormy appearance of the sky continued, and gave promise of a gale. The only hope left was to force the ship through, and every means were employed to effect this object. The ice they had now to contend with was of larger dimensions, and the increased sea rendered it doubly dangerous. Some of the shocks against it were so heavy as to excite fears that the ship's bow would be driven in, and on one occasion three of the chronometers were thrown out of their beds of sawdust upon their sides. They continued to make but little headway, and the grinding and thumping on the ship was most painful. The hope of extricating her lessened every moment ; for the quantity of ice between them and the sea was increasing, and the ship evidently moved with it to leeward. Few situations could be more trying, but the emergency was met by Captain Hudson with a coolness, perseverance, and presence of mind, which secured the admiration of all who were present, and inspired full confidence and a firm reliance in his ability to overcome every difficulty that lay within the power of human means.

In the afternoon of the 25th, the sea continued to increase, and the ship frequently struck against the masses of ice, while every foot they forged ahead carried them seemingly into a more precarious situation. At about 3 P.M., they found that the gripe had been beaten off, and they were now bruising up the stem and grinding away the bows. There appeared no other course but to drive her out, which

THE PEACOCK IN CONTACT WITH ICEBERGS—ANTARCTIC OCEAN.

was deemed the only chance of saving the ship and crew. All the canvass that would draw was therefore set to force her through; and the wind favouring them, they had by four o'clock succeeded in passing the thick and solid ice, and shortly afterwards found themselves in clear water, without a rudder, the gripe gone, and, as was afterwards found, the stem ground down to within an inch and a half of the wood-ends.

The carpenters were still employed on the rudder, and had succeeded in removing the broken pieces of the pintles from the second and third braces on the stern-post; the upper and lower pintles were broken, leaving only two to hang the rudder by. The weather seemed now to favour them, and about ten o'clock they had finished the rudder, which had been repaired in the best possible manner. Great credit is due to Mr. Dibble, the carpenter (who left his sick-bed on the occasion), for his exertions, attention, and perseverance. He and the carpenter's crew worked twenty-four hours without intermission. The ship was now hove-to, for it was apprehended that her rolling would render the task of shipping the rudder troublesome. By meridian they were again in a situation to make sail to extricate themselves from a bay some thirty miles in extent, which, with the exception of the small opening by which they had entered, was apparently closed by the barrier.

Shortly afterwards, the wind becoming fair, they made all sail for the outlet. The weather proved fine, and the winds moderate. At midnight they found the only opening left, which was not more than a quarter of a mile wide; they suceeeded in passing through this, by 2 A.M., in a snow-storm, and felt grateful to God for their providential escape.

Captain Hudson now came to the conclusion of returning north. "After," as he says, "thoroughly turning over in my own mind the state of the ship—with the head of the rudder gone, hanging by two braces, and in such a state that we could hardly hope to make it answer its purposes again, in encountering the boisterous weather we should have to pass through before reaching the first port—the ship considerably strained; her starboard spar-deck bulwarks gone as far forward as the gangway; the gripe off, and the stern mutilated;—fully satisfied from this state of things that she was perfectly useless for cruising among icebergs, and the accompanying dangers, in thick foggy weather, to which, in these latitudes, we should be more or less subject, and where rapid evolutions were often necessary, in which the rudder must perform its part; and that the ship would require extensive repairs before being employed in surveying operations; and feeling that the season was rapidly coming round when our services would be required in that duty, I held a council of the ward-room officers, and required their opinions, as to making any further attempts to cruise in these latitudes.

"There was but one opinion as to the necessity of the ship's returning north, with the exception of Mr. Emmons and Mr. Baldwin, who thought the rudder might stand, provided we did not get near the ice, or fall in with icebergs. This of course would be to effect little *or nothing*, and result only in a loss of time. I accordingly

put the ship's head north, determined to proceed at once to Sydney, to effect the necessary repairs, so as to be ready at the earliest possible day to join the squadron."

Such were the dangers and difficulties from which the Peacock, by the admirable conduct of her officers and crew, directed by the consummate seamanship of her commander, was enabled at this time to escape. There still, however, remained thousands of miles of a stormy ocean to be encountered, with a ship so crippled as to be hardly capable of working, and injured to such an extent in her hull as to be kept afloat with difficulty. The narrative of the events of this perilous navigation must, however, be postponed, until I shall have given the proceedings of the other vessels of the squadron, while tracing out the position of the icy barrier, and following along the newly-discovered continent.

CHAPTER XVIII.

ANTARCTIC CRUISE—(CONTINUED).

Proceedings of the Vincennes from the Twenty-second of January—Disappointment Bay—Watering on the Ice—Diagrams of the Ice-Islands—Their Utility—Violent Gale and Snow-storm—Narrow Escape from Striking the Ice—The Open Sea reached—Return of Fine Weather—Vincennes stands again to the South, and reaches the Icy Barrier—Piner's Bay—Soundings in Thirty Fathoms—Another Violent Gale—Report of the Medical Officers—Opinion of the Ward-room Officers—Determination to proceed with the Cruise—Its Events up to the Fourteenth of February—Landing on an Iceberg—Specimens of Rocks obtained—Inquiry in Relation to the Formation of Icebergs—Their Separation from the Land—Their Progress—Further Evidence in relation to the Antarctic Continent—Estimate of the Rate at which the Floating Ice moves—The Vincennes begins her Return to the North.

ESUMING the narrative of the disaster sustained by the Peacock, with which the preceding chapter closes, the Vincennes and Porpoise were left on the 22nd of January.

On that day the Vincennes passed the place through which the Peacock entered, as has been related, on the 23rd, and found no opening. To judge from the manner in which the ice moved during the time the Peacock was enclosed in it, I am inclined to ascribe the alternate opening and closing of the passage into the bay, to a tide setting along this coast. In support of this opinion it is sufficient to state, that the strength of the winds experienced on board that vessel was at no time sufficient to account for the manner in which the ice was found to move.

About thirty miles to the westward of this point, the Vincennes passed a remarkable collection of tabular icebergs, for whose existence I can account in no other manner than by supposing them to be attached to a rocky islet, which formed a nucleus to which they adhered. It was quite obvious that they had not been formed in the place where they were seen, and must, therefore, have grounded, after being adrift.

On the 23rd of January, after passing around this group of ice-

bergs, the sea was found comparatively clear, and a large open space showed itself to the southward. Into this space the course of the Vincennes was immediately directed. While thus steering to the south, the appearance of land was observed on either hand, both to the eastward and westward.

Pursuing this course, we by midnight reached the solid barrier, and all approach to the land on the east and west was entirely cut off by the close packing of the icebergs. I was, therefore, reluctantly compelled to return, not a little vexed that we were again foiled in our endeavour to reach the antarctic continent. This was a deep indentation in the coast, about twenty-five miles wide: we explored it to the depth of about fifteen miles, and did not reach its termination. This bay I have called Disappointment Bay: it is in latitude 67° 4′ 30″ S., longitude 147° 30′ E. The weather was remarkably fine, with a bracing air: the thermometer in the air 22°, in the water 31°.

The next day, 24th, we stood out of the bay, and continued our course to the westward. About noon, to my surpise, I learned that one of the officers, Lieutenant Underwood, had marked on the log-slate that there was an opening of clear water, subtending three points of the compass, at the bottom of Disappointment Bay. Though confident that this was not the fact, in order to put this matter at rest, I at once determined to return, although forty miles distant, and ordered the ship about, to refute the assertion by the officer's own testimony. This was most effectually done the next morning, 25th, when the ship reached the identical spot, and all were fully convinced that no opening existed. The whole bay was enclosed by a firm barrier of ice, from north-north-west to east-north-east.

The weather proved delightful, with light airs from the southward, and I determined to take this opportunity to fill up the water-tanks with ice. The ship was hove-to, a hawser got in readiness, the boats lowered, and brought alongside of an iceberg well adapted to our purpose.

The same opportunity was also taken to make the magnetic observations on the ice, and to try the local attraction of the ship.

Many birds were seen about the ship, of which we were fortunate in obtaining specimens. The day was remarkably clear, and the same appearance of land was seen that had been witnessed on the 24th. We filled nineteen of our tanks with ice, after having allowed it to remain for some time on deck for the salt water to drain off in part, and it proved very potable.

At about 5 P.M., we had completed our required store of ice, and cast off, making sail to the northward.

In order that no further mistakes should take place as to the openings being passed, I issued an order, directing the officer of the deck, on being relieved, to go to the mast-head, and report to me the exact situation of the ice; and this was continued during the remainder of our cruise among it.

In threading our way through the many icebergs, it occurred to me that they might be considered as islands, and a rough survey

made of them, by taking their bearings at certain periods, and making diagrams of their positions. This was accordingly done, and every few hours they were inserted on the chart which I was constructing in my progress.

This I found to be very useful, and it gave me confidence in proceeding, for I had a tolerable chart to retreat by in case of need, at least for a few hours, during which time I had reason to believe that there was not much probability of the icebergs changing their relative positions.

The dip observed on the ice was 87° 30′, and the variation 12° 46′ easterly. The compasses were found to be very sluggish, having but little horizontal directive force.

About half an hour after we cast off from the iceberg, a thick snow-storm came up, with the wind from the south-east. Although there were very many ice-islands around us, on our way out, I felt that I understood the ground well, having passed over it twice, and knowing I had a space of a few miles, only thinly sprinkled with icebergs, I hove-to with shortened sail. This was the first south-east wind we had had since being on this coast. I had been disappointed in not finding it from that quarter before; for I had been informed, by those who had navigated in high southern latitudes, that south-east would be the prevailing wind, and would be attended with fine weather. Now, however, with a fair wind, I was unable to run, for the weather was unfavourable.

At 6 A.M., on the 26th, we again made sail, and at 8 A.M., we discovered the Porpoise, to whom we made signals to come within hail. We found them all well, and compared chronometers.

As it still blew fresh from the south-east, and the weather became a little more clear, we both bore away, running through much drift-ice, at the rate of nine knots an hour. We had the barrier in sight; it was, however, too thick to see much beyond it. Sailing in this way I felt to be extremely hazardous; but our time was so short for the examination of this icy coast, that while the barrier was to be seen, I deemed it my duty to proceed. We fortunately, by good look-outs, and carefully conning the ship, were enabled to avoid any heavy thumps.

On the 27th, we again had the wind from south-south-west. The floe-ice had become so thick, that we found it impossible to get through it in the direction I wished to go, and we were compelled to pass round it. The Porpoise was in sight until noon. The weather proved beautifully clear. A long range of tabular icebergs was in sight to the southward, indicating, as I have before observed, that the coast was near. I passed through these, losing sight of the Porpoise to the north-west about noon, when we were in longitude 142° 40′ E., latitude 65° 54′ 21″ S., variation 5° 8′ easterly.

On the 28th, I found myself completely surrounded by the tabular icebergs, through which we continued to pass. Towards midnight the wind shifted to the south-east, and enabled me to haul more to the southward. At 9½ A.M. we had another sight of the land ahead, and every prospect of nearing it, with a fine breeze. The sight of the icebergs around us, all of large dimensions, was beautiful. The

greatest number in sight at one time was noted, and found to be more than a hundred, varying from a quarter of a mile to three miles in length. We took the most open route, and by eleven o'clock had run upwards of forty miles through them. We had the land now in plain view, but the weather soon began to thicken and the breeze to freshen. At noon it was so thick that everything was hidden, and no observation was obtained. The ship was hove-to, but shortly after again put under way, making several tacks to keep my position, which I felt was becoming a critical one, in case a gale should ensue. I therefore looked carefully over my chart, and was surprised at the vast number of icebergs that appeared on it. At 2 P.M. the barometer began to fall, and the weather to change for the worse. At 5 P.M. a gale was evidently coming on, so we took three reefs in the topsails. It appeared now that certain wreck would ensue, should we remain where we were; and after much consideration, I made up my mind to retrace my way, and seek the open space forty miles distant, taking for a landmark a remarkable berg that had been the last entered on the chart, and which would be a guide to my course out. I therefore stood for its position. The weather was so thick, that it was necessary to run close to it, to be quite sure of recognising it, for on this seemed to depend our safety. About the estimated time we would take to pass over the distance, an iceberg was made (we were within one thousand feet of it) which, at first view, I felt confident was the one sought, but was not altogether satisfied afterwards. I therefore again consulted my chart, and became more doubtful of it. Just at that moment I was called on deck by an officer, who informed me that there were icebergs a short distance ahead. Such proved to be the case; our path was beset with them, and it was evident we could not regain our route. To return was worse, so having but little choice left, I determined to keep on. To encounter these icebergs so soon after seeing the other, was in some respects satisfactory, for it removed all doubts, and showed me that we were not near the track by which we entered. Nothing, therefore, was to be done but to keep a good look-out, and the ship under sufficient way to steer well. My safest plan was to keep as near our former track as possible, believing it to be most free of these masses.

At 8 P.M. it began to blow very hard, with a violent snow-storm, circumscribing our view, and rendering it impossible to see more than two ship's lengths ahead. The cold was severe, and every spray that touched the ship was immediately converted into ice. At 9 P.M., the barometer still falling and the gale increasing, we reduced sail to close-reefed fore and main-topsails, reefed foresail and trysails, under which we passed numerous icebergs, some to windward, and some to leeward of us. At 10h. 30m., we found ourselves thickly beset with them, and had many narrow escapes; the excitement became intense; it required a constant change of helm to avoid those close aboard; and we were compelled to press the ship with canvass in order to escape them, by keeping her to windward. We thus passed close along their weather sides, and distinctly heard the roar of the surf dashing against them. We had, from time to time, glimpses of

their obscure outline, appearing as though immediately above us. After many escapes, I found the ship so covered with ice, and the watch so powerless in managing her, that a little after midnight, on the 29th, I had all hands called. Scarcely had they been reported on deck, when it was made known to me that the gunner, Mr. Williamson, had fallen, broken his ribs, and otherwise injured himself on the icy deck.

The gale at this moment was awful. We found we were passing large masses of drift ice, and ice-islands became more numerous. At a little after one o'clock it was terrific, and the sea was now so heavy that I was obliged to reduce sail still further; the fore and main-topsails were clewed up; the former was furled, but the latter being a new sail, much difficulty was found in securing it.

A seaman, by the name of Brooks, in endeavouring to execute the order to furl, got on the lee yard-arm, and the sail having blown over the yard, prevented his return. Not being aware of his position until it was reported to me from the forecastle, he remained there some time. On my seeing him he appeared stiff, and clinging to the yard and lift. Spilling-lines were at once rove, and an officer with several men sent aloft to rescue him, which they succeeded in doing by passing a bowline around his body and dragging him into the top. He was almost frozen to death. Several of the best men were completely exhausted with cold, fatigue, and excitement, and were sent below. This added to our anxieties, and but little hope remained to me of escaping; I felt that neither prudence nor foresight could avail in protecting the ship and crew. All that could be done was to be prepared for any emergency, by keeping every one at his station.

We were swiftly dashing on, for I felt it necessary to keep the ship under rapid way through the water, to enable her to steer and work quickly. Suddenly many voices cried out, "Ice ahead!" then, "On the weather bow!" and again, "On the lee bow and abeam!" All hope of escape seemed in a moment to vanish; return we could not, as large ice-islands had just been passed to leeward: so we dashed on, expecting every moment the crash. The ship, in an instant, from having her lee guns under water, rose upright; and so close were we passing to leeward of one of these huge islands, that our trysails were almost thrown aback by the eddy wind. The helm was put up to pay the ship of, but the proximity of those under our lee bade me keep my course. All was now still except the distant roar of the wild storm, that was raging behind, before, and above us; the sea was in great agitation, and both officers and men were in the highest degree excited. The ship continued her way, and as we proceeded, a glimmering of hope arose, for we accidentally had hit upon a clear passage between two large ice-islands, which in fine weather we should not dare to have ventured through. The suspense endured while making our way between them was intense, but of short duration; and my spirits rose as I heard the whistling of the gale grow louder and louder before us, as we emerged from the passage. We had escaped an awful death, and were again tempest-tost.

We encountered many similar dangers that night. At half-past 4 A.M., I found we had reached the small open space laid down on my chart, and at five o'clock I hove-to the ship. I had been under intense excitement, and had not been off the deck for nine hours, and was now thankful to the Providence that had guided, watched over, and preserved us. Until 7 A.M. all hands were on deck, when there was some appearance of the weather moderating, and they were piped down.

This gale was from the south-east, from which quarter it blew during the whole of its strength; and when it began to moderate, the wind veered to the southward. By noon we felt satisfied that the gale was over, and that we had escaped, although it was difficult to realise a sense of security when the perils we had just passed through were so fresh in our minds, and others still impending. Towards four o'clock it cleared off, and we saw but few icebergs near us. Our longitude was found to be 140° E., latitude 63° 30′ S., and I again made sail for the ice to the south, to pass over the very route we had just traversed through so many perils.

The wind had now hauled to the south-west. At 6 P. M., we again began to enter among ice-islands. The weather appeared settled; but I had so often been deceived by its fickleness, that I felt no reliance ought to be put in its continuance. A powerful inducement was held out to us, in the prospect of getting close enough to effect a landing; and this rendered us insensible to the dangers.

On the morning of the 30th the sun rose in great brilliancy, and the scene was altogether unlike that we had passed through only twenty-four hours before. All was now quiet; a brisk breeze blew from the eastward, all sail was set, and there was every prospect that we might accomplish our object; for the land was in sight, and the icebergs seemed floating in quiet. We wound our way through them in a sea so smooth that a yawl might have passed over it in safety. No straight line could have been drawn from us in any direction, that would not have cut a dozen icebergs in the same number of miles, and the wondering exclamations of the officers and crew were oft repeated—"How could we have passed through them unharmed?" and "What a lucky ship!" At eight o'clock, we had reached the icy barrier, and hove-to close to it. It was tantalising, with the land in sight, to be again and again blocked out. Open water was seen near the land to the southwest of us, and a tortuous channel through the broken ice to leeward, apparently leading to it. All sail was immediately crowded; we passed rapidly through, and found ourselves again in clear water, which reached to the shores; the barrier extending in a line with our course, about two miles to windward, and a clear channel to the north-west, about two miles wide, as far as the eye could reach. Seeing this, I remarked to one of the officers that it would have been a good place to drift in during the last gale—little thinking that in a few short hours it would serve us for that purpose in still greater need. A brisk gale ensued, and the ship ran at the rate of nine or ten miles an hour;

one reef was taken in the topsails, and we stood directly in for the most southerly part of the bay.

This bay was formed partly by rocks and partly by ice-islands. The latter were aground, and on the western side of the bay extended about five miles to the northward of our position.

While we stood on in this direction the gale increased, and our room became so circumscribed that we had not time on any one tack to reduce our canvass, before it became necessary to go about. In this way we approached within half a mile of the dark volcanic rocks, which appeared on both sides of us, and saw the land gradually rising beyond the ice to the height of three thousand feet, and entirely covered with snow. It could be distinctly seen extending to the east and west of our position fully sixty miles. I make this bay in longitude 140° 2′ 30″ E., latitude 66° 45′ S.; and, now that all were convinced of its existence, I gave the land the name of the Antarctic Continent. Some of the officers pointed out the appearance of smoke, as if from a volcano, but I was of opinion that this was nothing but the snow-drift, caused by the heavy squalls. There was too much wind at this time to tack; I therefore had recourse to luffing the vessel up in the wind, and wore her short round on her heel. At the same time we sounded, and found a hard bottom at the depth of no more than thirty fathoms. I have called this bay Piner's Bay, after the signal quarter-master of that name. It was impossible to lower a boat, or to remain longer; indeed, I felt it imperative on me to clear its confined space before the floating ice might close it up.

At 10h. 30m. we had gone round, and in an hour more we cleared the bay. At noon the wind had increased to a gale, and by one o'clock, P. M., we were reduced to storm-sails, with our top-gallant yards on deck. The barometer had again declined rapidly, proving a true indicator, but giving little or no warning. To run the gauntlet again among the icebergs was out of the question, for a large quantity of field-ice would have to be passed through, which must have done us considerable damage, if it did not entirely disable us. The clear space we occupied was retained until five or six o'clock, when I found the floe-ice was coming down upon us; I then determined to lay the ship for a fair drift through the channel I had observed in the morning, and which I had every reason to believe, from the wind (south-east) blowing directly through it, would not be obstructed until the floe-ice came down. It was a consolation to know that if we were compelled to drift, we should do so faster than the ice; I therefore thought it as well to avoid it as long as possible. Another reason determined me to delay the drifting to the latest moment; I did not believe that the extent of the channel we had seen in the morning was more than ten miles, and at the rate we drifted, the end of it would be reached long before the gale was over. This, like the former gale, was an old-fashioned snow-storm. All the canvass we could show to it at one time was a close-reefed main-topsail and fore-storm-staysail. It blew tremendously, and the sea we experienced was a short disagreeable one, but nothing to be compared to that which accompanied the first gale. From the shortness of the sea, I

inferred that we had some current. This state of things continued for several hours, during which we every moment expected to reach the end of our channel. Since the last gale, the whole crew, officers and men, had been put in watch and watch, ready for an instantaneous call, and prepared for rapid movements. The snow was of the same sleety or cutting character as that of the previous day, and seemed as if armed with sharp icicles or needles.

The 31st brought no moderation of the weather. At 1 A. M., a group of ice-islands was reported, and shortly afterwards field-ice close under our lee. We wore ship instantly, and just avoided coming in contact with the latter. Sail was immediately made on the ship, and the scene of the former gale again gone through, with this exception, that we were now passing to and fro among icebergs immediately to windward of the barrier, and each tack brought us nearer to it. Between 4 and 5 A. M., our space was becoming confined, and there was no abatement of the gale; I therefore, as it had cleared sufficiently to enable us to see a quarter of a mile, determined to bear up and run off north-northwest for a clear sea. In doing this we passed icebergs of all dimensions and heavy floe-ice. By 8h. 30m. we had run thirty miles, when, finding a more open sea, I judged we had partially cleared the ice. At noon the gale still continued. The lowest reading of the barometer during this gale was 28.59 in.

After lasting thirty hours, the gale, at six P. M., began to moderate a little, when we again made sail to the southward. I now felt inclined to seek Piner's Bay again, in order to effect a landing. This would have been a great personal gratification; but the bay was sixty miles distant, so that to revisit it would occupy time that was now precious; and feeling satisfied that a great extent of land wholly unknown lay to the westward, I deemed it my duty to proceed to its discovery, not doubting that if my opinions of its existence were correct, a place equally feasible for landing would be found. Another subject also presented itself, which, for a time, caused me some anxiety, and which I confess was not only unexpected by me, but directly at variance with my own observations on the condition of my crew.

The following report of the medical officers of the ship was made to me on the day of its date:—

U. S. Ship Vincennes,
At sea, January 31st, 1840.

Sir,—It becomes our duty, as medical officers of this ship, to report to you in writing the condition of the crew at the present time.

The number upon the list this morning is fifteen; most of these cases are consequent upon the extreme hardships and exposure they have undergone during the last gales of wind, when the ship has been surrounded with ice.

This number is not large, but it is necessary to state that the general health of the crew, in our opinion, is decidedly affected, and that under ordinary circumstances the list would be very much increased, as the men, under the present exigencies, actuated by a

laudable desire to do their duty to the last, refrain from presenting themselves as applicants for the list.

Under these circumstances, we feel ourselves obliged to report that, in our opinion, a few more days of such exposure as they have already undergone, would reduce the number of the crew by sickness to such an extent as to hazard the safety of the ship, and the lives of all on board.

Very respectfully, your obedient servants,

(Signed) J. L. Fox,
J. S. Whittle,
Assistant-Surgeons.

To Charles Wilkes, Esq.,
Commanding Exploring Expedition.

Although my own opinion, as I have stated, differed from that expressed in the report, I deemed it my duty to ask the opinion of the ward-room officers; and also, in order to procure additional medical advice, restored to duty Acting-Surgeon Gilchrist, who was under suspension. The opinion of the ward-room officers was asked in a written circular, of which the following is a copy.

U. S. Ship Vincennes,
At sea, January 31st, 1840.

Gentlemen,—The receipt of the enclosed report of Drs. Fox and Whittle, relative to the health and condition of the crew of this ship, at this time, renders it necessary for me to decide whether it is expedient to push farther south in exploration under the present circumstances.

As you are acquainted with all the circumstances, it is unnecessary to repeat them, except to remark, that your opinion is requested before I decide upon the course to be pursued, in consequence of the strong bias self-interest might give me in the prosecution of our arduous duties. I wish the report returned to me, and for you to communicate your opinion in writing.

I am respectfully, &c.,
Charles Wilkes,
Commanding Exploring Expedition.

To the Ward-room Officers,
U. S. Ship Vincennes.

Of the answers to this letter it is sufficient here to say, that a majority concurred in opinion with the report of the medical officers. Notwithstanding these opinions, I was not satisfied that there was sufficient cause to change my original determination of passing along to the appointed rendezvous; and, after full consideration of the matter, I came to the conclusion, at whatever hazard to ship and crew, that it was my duty to proceed, and not give up the cruise until the ship should be totally disabled, or it should be evident to all that it was impossible to persist any longer. In bringing myself to this decision, I believe that I viewed the case on all sides with fairness, and allowed my duty to my country, my care for those whom it had committed to my charge, and my responsibility to the world, each to have its due weight.

The weather now moderated, and I ordered sail to be made. The

2nd of February found us about sixty miles to the westward of Piner's Bay, steering to the southward, and as usual among ice-islands, with the land in sight. The land had the same lofty appearance as before. We stood in until 3 P.M., when we were within two and a half miles of the icy cliffs by which the land was bounded on all sides. These were from one hundred and fifty to two hundred feet in height, quite perpendicular, and there was no appearance whatever of rocks; all was covered with ice and snow. A short distance from us to the westward was a long range of icebergs aground, which, contrary to the usual appearance, looked much weather-beaten. We tried for soundings, but did not get any with one hundred and fifty fathoms, although the water was much discoloured. The badness of the deep-sea line was a great annoyance to us, for deeper soundings would probably have obtained bottom. No break in the icy barrier, where a foot could be set on the rocks, was observable from aloft. The land still trended to the westward as far as the eye could reach, and continued to exhibit the same character as before. Our longitude now was 137° 2′ E., latitude 66° 12′ S.; we found the magnetic declination westerly.

This proved a fine day, so that we had an opportunity of airing the men's bedding, of ventilating the ship, and of getting rid of the ice, with which we were much encumbered. The thermometer varied from 33° to 36°. Our sick-list had increased the last few days to twenty; many of the men were affected with boils, which rendered them comparatively useless; and ulcers, which were caused by the least scratch, were exceedingly prevalent; but their food was good, they had plenty of it, and their spirits were excellent. The high land was seen this afternoon, but the barrier along which we were passing prevented any nearer approach. This evening it was perceptible that the days were becoming shorter, which was a new source of anxiety, for we were often surrounded by numerous ice-islands, which the darkness rendered more dangerous.

Towards evening the weather became unsettled, and the 3rd of February was ushered in by another gale, accompanied with snow. The barometer fell lower than heretofore, namely, to 28.460 in.; the thermometer stood at 33°. Before the thick snow came on we had taken the bearings of the ice-islands, and finding we had a few miles comparatively free from them, I determined to await the result of the storm, and made everything snug to encounter it. The gale continued throughout the day, and although it moderated after 5 P.M., we had some strong squalls, but nothing so violent as those we had already experienced. The ship, in consequence of the snow, became more damp and uncomfortable, and our sick-list was increased to thirty, who were rather overcome by want of rest and fatigue than affected by any disease. To remedy the dampness, a stove was placed on the gun-deck, and fires kept burning in the galleys on the berth-deck, more for the purpose of drying the men's clothes than for warmth. We had no observations this day, but the dead-reckoning gave the longitude 134° E., latitude 63° 49′ S.

The 4th and 5th the weather continued the same. As the winds became lighter thick snow fell, and we were able to see only a short

distance from the ship. We contrived by manœuvring to retain our position. On this last day we got a tolerable observation, which gave our longitude as 133° 42′ E., and latitude 64° 6′ S.

The first part of the 6th, the same thick weather continued, but towards 4 P.M. it began to clear, when we again made sail, until we saw and took the bearings of the barrier. We found ourselves situated opposite the part of it we had seen three days before. It still had the appearance of being attached to the land, and in one uninterrupted line. Wishing to examine it closely, I hove to for broad daylight. Many whales, penguins, flocks of birds, and some seals, were reported.

On the 7th we had much better weather, and continued all day running along the perpendicular icy barrier, about one hundred and fifty feet in height. Beyond it the outline of the high land could be well distinguished. At 6 P.M. we suddenly found the barrier trending to the southward, and the sea studded with icebergs. I now hauled off until daylight, in order to ascertain the trending of the land more exactly. I place this point, which I have named Cape Carr, after the first lieutenant of the Vincennes, in longitude 131° 40′ E., and latitude 64° 49′ S.

On the 8th, at daylight, we again made sail to the southward, and found at 4 A.M. the field of ice had stopped our progress, and the weather was thick. Land was no longer seen to the south, a deep bay apparently making in. We continued our course to the westward along the barrier, until 8 P.M., when we were again brought to. At 7 P.M. we had strong indications of land; the barrier was of the former perpendicular form, and later the outline of the continent appeared distinct though distant. The night was dark and unpleasant. At noon our longitude was 127° 7′ E., and latitude 65° 3′ S.; variation 14° 30′ westerly.

On the 9th we had the finest day we had yet experienced on this coast; the wind had veered from the east to south-west, and given us a clear, bracing, and wholesome atmosphere. The barrier exhibited the same appearance as yesterday. Our longitude was 125° 19′ E., latitude 65° 8′ S., variation 32° 45′ westerly. The current was tried, but none found; the pot was only visible at five fathoms; the colour of the water a dirty green; the dip sector gave 3′ 15″. I never saw a clearer horizon, or one better defined than we had to the northward. The icy barrier was really beautiful. At midnight we had a splendid display of the aurora australis, extending all around the northern horizon, from west by north to east-north-east. Before its appearance, a few clouds only were seen in the south-east, on which the setting sun cast a red tint, that barely rendered them visible. The horizon, with this exception, appeared clear and well defined. The spurs or brushes of light frequently reached the zenith, converging to a point near it.

Although no clouds could be seen in the direction of the aurora before or after its appearance, yet when it was first seen, there appeared clouds, of the form of massive cumuli, tinged with pale yellow, and behind them arose brilliant red, purple, orange and yellow tints, streaming upwards in innumerable radiations, with all

the shades that a combination of these colours could effect. In its most brilliant state it lasted about twenty minutes. The gold-leaf electrometer was tried, but without being affected: the instrument, however, was not very sensitive. Being somewhat surprised at the vast mass of cumuli which appeared during the continuance of the aurora, I watched, after its disappearance, till daylight, but could see only a few clouds: I am therefore inclined to impute the phenomenon to some deception caused by the light of the aurora. The apparent altitude of these clouds was 8°.

On the 10th we were again favoured by the weather; it gave us a fine sunshine, and an opportunity of airing the ship and drying the clothes. All the sick were improving in health.

Running close along the barrier, which continued of the same character, although more broken than yesterday, we saw an appearance of land, although indistinctly, to the southward. The water was of the same colour here as before, and the wind being from the south-south-east, we made some progress, and found ourselves in longitude 122° 35′ E., latitude 65° 27′ S.; the variation had now increased to 44° 30′ westerly. No aurora was seen this night, although it was looked for anxiously.

11th. The barometer had been stationary at 29.080 in. for the last three days; it now began to fall; the temperature of the air was 31°, of the water 32°. The fall of the barometer was soon followed by snow and thick weather. The trending of the barrier had been south-west by west, and a good deal of floe-ice had been met with, which we ran through. The sea was quite smooth, and many icebergs were enclosed in the barrier, which was very compact, and composed of flat fields. At 10 P.M., I found it too dark to run, and hove-to.

During the 12th we had pleasant weather, and at 2 A.M. filled away. At 8 A.M., land was reported to the south-west. Keeping along the barrier and increasing our latitude, I again had hopes of getting near the land. We passed through great quantities of large floe-ice until 1 P.M., when the solid barrier prevented our further progress. Land was now distinctly seen, from eighteen to twenty miles distant, bearing from south-south-east to south-west—a lofty mountain range, covered with snow, though showing many ridges and indentations. I laid the ship to for three hours, in hopes of discovering some opening or movement in the ice, but none was experienced. I tried the current, and found none. The water was of a dirty dark green. We sounded with the wire-line in two hundred and fifty fathoms, and found no bottom. The temperature at that depth was 30½°, of the air 31°. The barrier had in places the appearance of being broken up, and we had decreased our longitude to 112° 16′ 12″ E., while our latitude was 64° 57′ S. This puts the land in about 65° 20′ S., and its trending nearly east and west. The line of the icy barrier was generally uniform, although it was occasionally pierced with deep bays. We saw some icebergs with decided spots of earth on them, which gave me hopes of yet obtaining the object of my wishes. The water was remarkably smooth during this day, and the weather clear, enabling us to see a great distance. Two

hours after we bore away, we left the floe-ice, and entered a clear sea to the westward, where we lost sight of the barrier for a time; but in hauling up to the south-west, it was, by 8 P.M., within three miles of us, when we again kept off parallel to its trending. The appearance of land still continued. Shortly after, I hove-to, for the purpose of awaiting the daylight, to continue our observations of the land, with little prospect or probability of reaching it, from the immense quantity of ice which continued to form an impenetrable barrier.

13th. At 2 A.M. we made sail to the south-west, in order to close with the barrier, which we found retreated in that direction, and gave us every prospect of getting nearer to it. Our course, for the most part, was through icebergs of tabular form. In the afternoon we had the land ahead, and stood in for it with a light breeze until 6½ P.M., when I judged it to be ten or twelve miles distant. It was very distinct, and extended from west-south-west to south-south-east. We were now in longitude 106° 40′ E., and latitude 65° 57′ S.; the variation was 54° 30′ westerly. The water was very green. We sounded in three hundred fathoms, and found no bottom. The weather having an unsettled appearance, we stood off to seek a clearer space for the night. The land left was high, rounded, and covered with snow, resembling that first discovered, and had the appearance of being bound by perpendicular icy cliffs.

14th. At daylight we again made sail for the land, beating in for it until 11 A.M., when we found any further progress quite impossible. I then judged that it was seven or eight miles distant. The day was remarkably clear, and the land very distinct. By measurement, we made the extent of coast of the Antarctic Continent, which was then in sight, seventy-five miles, and by approximate measurement, three thousand feet high. It was entirely covered with snow. Longitude at noon, 106° 18′ 42″ E., latitude 65° 59′ 40″ S., variation 57° 5′ westerly. On running in, we had passed several icebergs greatly discoloured with earth, and finding we could not approach the shore any nearer, I determined to land on the largest ice-island that seemed accessible, to make dip, intensity, and variation observations. On coming up with it, about one and a half mile from where the barrier had stopped us, I hove the ship to, lowered the boats, and fortunately effected a landing. We found embedded in it, in places, boulders, stones, gravel, sand, and mud or clay. The larger specimens were of red sandstone and basalt. No signs of stratification were to be seen in it, but it was in places formed of icy conglomerate (if I may use the expression), composed of large pieces of rocks, as it were frozen together, and the ice was extremely hard and flint-like. The largest boulder embedded in it was about five or six feet in diameter, but being situated under the shelf of the iceberg, we were not able to get at it. Many specimens were obtained, and it was amusing to see the eagerness and desire of all hands to possess themselves of a piece of the Antarctic Continent. These pieces were in great demand during the remainder of the cruise. In the centre of this iceberg was found a pond of most delicious

water, over which was a scum of ice about ten inches thick. We obtained from it about five hundred gallons. We remained upon this iceberg several hours, and the men amused themselves to their hearts' content in sliding. The pond was three feet deep, extending over an area of an acre, and contained sufficient water for half a dozen ships. The temperature of the water was 31°. This island had been undoubtedly turned partly over, and had precisely the same appearance that the icy barrier would have exhibited if it had been turned bottom up and subsequently much worn by storms. There was no doubt that it had been detached from the land, which was about eight miles distant.

Around the iceberg we found many species of zoophytes, viz.: salpee, a beautiful specimen of Clio helicina, some large pelagie, and many small crustacea. I made several drawings of them. This day, notwithstanding our disappointment in being still repelled from trading on the new continent, was spent with much gratification, and gave us many new specimens from it.

Finding that we had reached the longitude of 105° E. before the time anticipated, and being desirous to pursue the discoveries farther west, I left a signal flying on this berg, with a bottle containing instructions for the other vessels, directing them to proceed to the westward as far as they could, in the time which should remain prior to the 1st of March. At 8, P.M., we joined the ship, and bore away again to the westward, intending to pursue the route pointed out to them.

On the 15th we passed many icebergs much discoloured with earth, stones, &c., none of which appeared of recent formation. The weather this day became lowering, and the breeze fresh; we double-reefed the topsails, and made everything snug; the wind was from the southward. At noon this day we were in longitude 104° E., latitude 64° 6′ S. The sea had been remarkably smooth the last few days, with no swell; and I began to entertain the idea that we might have a large body of ice to the northward of us; for the position where Cook found the barrier in 1773 was two hundred miles farther to the north. I determined, however, to pass on in our explorations, hoping they might enable me to join that of Enderby's Land. I deemed it a great object actually to prove the continuity with it if possible; and if disappointed in this, I should at any rate ascertain whether there had been any change in the ice in this quarter, since the time of Cook, which had been done already near his Ne Plus Ultra.

We had a vast number of whales about us this day, as well as penguins, Cape pigeons, white and gray, and small and large petrels. Some seals also were seen.

I was now happy to find the health of my crew had become re-established, and that only a few remained on the sick-list. This, I think, was effected by constant attention to their being warmly clothed.

The icebergs were covered with penguins. Several officers landed on the icebergs to get a few as specimens. On their return, some penguins followed them closely, particularly one, who at last leaped

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into the boat. It was supposed that its male had been among those taken, and that it had followed on that account. If this were the fact, it would show a remarkable instinctive affection in this bird.

On the 16th, the barrier of ice trended to the northward, and we were obliged to haul to the north-east, passing through a large number of ice-islands, many of which were stained with earth. In the afternoon a large sea-elephant was discovered on the ice; two boats were sent to effect his capture, and many balls were fired into him, but he showed the utmost indifference to their effect, doing no more than to raise his head at each shot. He contrived to escape by floundering over the ice until he reached the water, in which he was quite a different being. At about 7, P.M., Dr. Fox was dispatched in a boat to visit an ice-island that was very much discoloured with clay in patches. He reported that there was upon it a large pond of muddy water, not frozen, although the temperature on board was much below the freezing point. We observed around the icebergs numerous right whales, puffing in all directions. A large quantity of small crustacea, including shrimps, were here seen around the icebergs. These are believed to be the cause that attracts whales to these parts; they also supply the numerous penguins with their food. For several days I observed a great difference in the wind, by day and by night. It had been fresh from the hour of seven in the morning until 8, P.M., when it generally becomes light, or dies away altogether. To-day we found ourselves in longitude 99° E., and latitude 64° 21′ S. We to-day made observations throughout the twenty-four hours with Leslie's photometer.

On the 17th, about 10, A.M., we discovered the barrier extending in a line ahead, and running north and south as far as the eye could reach. Appearances of land were also seen to the south-west, and its trending seemed to be to the northward. We were thus cut off from any further progress to the westward, and obliged to retrace our steps. This position of the ice disappointed me, although it concurred with what was reasonably to be expected. We were now in longitude 97° 37′ E., and latitude 64° 1′ S.; our variation was 56° 21′ westerly, being again on the decrease. To-day we had several snow-squalls, which, instead of being in flakes, was in small grains, as round as shot, and of various sizes, from that of mustard-seed to buck-shot. It was remarkably dry, pure white, and not at all like hail. We found the bay we had entered was fifty or sixty miles in depth, and having run in on its southern side, I determined to return along its northern shore, which we set about with much anxiety, as the weather began to change for the worse. Our situation was by no means such as I should have chosen to encounter bad weather in, the bay being sprinkled with a great many large icebergs. Here we met with a large number of whales, whose curiosity seemed awakened by our presence. Their proximity, however, was anything but pleasant to us, and their blowings resembled that of a number of locomotives. Their close approach was a convincing proof that they had never been exposed to the pursuit of their skilful hunters. They were of the fin-back species, and of extraordinary size.

Between ten and eleven o'clock at night it was entirely clear overhead, and we were gratified with a splendid exhibition of the aurora australis. It exceeded anything of the kind I had heretofore witnessed; its activity was inconceivable, darting from the zenith to the horizon in all directions in the most brilliant coruscations; rays proceeding as if from a point in the zenith, flashed in brilliant pencillings of light, like sparks of electric fluid in vacuo, and re-appeared again to vanish; forming themselves into one body, like an umbrella, or fan, shut up; again emerging to flit across the sky with the rapidity of light, they showed all the prismatic colours at once or in quick succession. So remarkable were the phenomena, that even our sailors were constantly exclaiming in admiration of its brilliancy. The best position in which to view it was by lying flat upon the deck, and looking up. The electrometer was tried, but no effect perceived. The star Canopus was in the zenith at the time, and though visible through the aurora, was much diminished in brightness. On this night also the moon was partially eclipsed.

Large icebergs had now become very numerous, and strengthened the belief that the land existing in this vicinity had taken a very decided trend to the northward. I accordingly followed up the northern barrier closely, and passed through the thickest of these bergs, well knowing from our experience that we should have little or no opportunity of seeing the land, unless on the inner side of them. It appeared as though they had collected here from other places, and it is impossible to form an idea of the small space to which we were at times confined. Upwards of one hundred ice-islands could be counted at a time without the aid of a glass, some of which were several miles long. We enjoyed this beautiful sight with the more pleasure, for we had become used to them, and knew from experience that it was possible to navigate through them without accident.

On the 18th, we continued beating to the eastward, and found no end to the apparently interminable barrier. We had a smooth sea, and better weather than I anticipated. At noon, we had retraced our way about forty miles. To-day we again had snow, which fell in the form of regular six-pointed stars. The needles of which these stars were formed were quite distinct, and of regular crystals. The temperature at the time was 28°. The barometer stood at 28.76 in., about three-tenths lower than we had had it for the last twelve days. The wind was easterly.

19th. During this day the barrier trended more to the north-east, and we not unfrequently entered bays so deep as to find ourselves, on reaching the extremity, cut off by the barrier, and compelled to return within a few miles of the place where we had entered. I thought at first that this might have been caused by the tide or current, but repeated trials showed none. Neither did I detect any motion in the floating ice except what was caused by the wind. Our longitude to-day was 101° E., latitude 63° 2′ S. Some anxiety seemed to exist among the officers and crew lest we should find ourselves embayed or cut off from the clear sea, by a line of barrier. There appeared *strong* reason for this apprehension, as the smooth sea we had had

for several days still continued; we had been sailing as if upon a river, and the water had not assumed its blue colour.

It was, therefore, with great pleasure that, on the 20th, a slight swell was perceived, and the barrier began to trend more to the northward, and afterwards again to the westward. In the morning we found ourselves still surrounded by great numbers of ice-islands. After obtaining a tolerably clear space, the day being rather favourable, we sounded with a deep-sea line eight hundred and fifty fathoms. Six's thermometer gave at the surface 31°, and at the depth of eight hundred and fifty fathoms 35°, an increase of four degrees. The current was again tried, but none was found. A white object was visible at eleven fathoms. The water had now assumed a bluish cast.

We endeavoured to-day to land on an iceberg, but there was too much sea. Shrimps were in great quantities about it, but swam too deep to be taken. The wind again hauled to the westward, which disappointed me, as I was in hopes of getting to the position where Cook saw the ice in 1773, being now nearly in the same latitude. It was less than one hundred miles to the westward of us; and little doubt can exist that its situation has not materially changed in sixty-seven years.

The observations of the squadron during this season's antarctic cruise, together with those of the preceding year, would seem to confirm the opinion that very little change takes place in the line of ice. It may be inferred that the line of perpetual congelation exists in a lower latitude in some parts of the southern hemisphere than in others. The icy barrier retreats several degrees to the south of the Antarctic Circle to the west of Cape Horn, while to the eastward it in places advances to the northward of that line, which is no doubt owing to the situation of the land. From the great quantities of ice to be found drifting in all parts of the ocean in high southern latitudes, I am induced to believe that the formation of the ice-islands is much more rapid than is generally supposed. The manner of their formation claimed much of my attention while among them, and I think it may be explained satisfactorily and without difficulty. In the first place, I conceive the ice requires a nucleus whereon the fogs, snow, and rain, may congeal and accumulate; this the land affords. Accident then separates part of this mass of ice from the land, when it drifts off, and is broken into many pieces, and part of this may again join that which is in process of formation.

From the accumulation of snow, such a mass speedily assumes a flat or table-topped shape, and continues to increase. As these layers accumulate, the field-ice begins to sink, each storm (there of frequent occurrence) tending to give it more weight. The part which is now attached to the land remains aground, whilst that which is more remote being in deep water is free to sink. The accumulated weight on its outer edge produces fissures or fractures at the point where it takes the ground, which the frosts increase; thus separated, the surface again becomes horizontal, and continues to receive new layers from snow, rain, and even fogs, being still

retained to the parent mass by the force of attraction. The fogs have no small influence in contributing to the accumulation: some idea may be formed of the increase from this cause, from the fact that during a few hours the ice accumulated to the thickness of a quarter of an inch on our rigging and spars, though neither rain nor snow fell. It may, therefore, I think, be safely asserted that these icebergs are at all times on the increase; for there are few days, according to our experience in this climate, in which some mode of precipitation does not prevail in these high latitudes, where, according to our observations, ice seldom melts. The temperature of even the summer months being rarely above the freezing point, masses of a thousand feet in thickness might require but a few years to form. Icebergs were seen in all stages of formation, from five to two hundred feet above the surface, and each exposed its stratification in horizontal layers from six inches to four feet in thickness. When the icebergs are fully formed, they have a tabular or stratified appearance, and are perfectly wall-sided, varying from one hundred and eighty to two hundred and ten feet in height. These were frequently found by us in their original situation, attached to the land, and having the horizontal stratification distinctly visible.

In some places we sailed for more than fifty miles together, along a straight and perpendicular wall, from one hundred and fifty to two hundred feet in height, with the land behind it. The icebergs found along the coast afloat were from a quarter of a mile to five miles in length; their separation from the land may be effected by severe frost rending them asunder, after which the violent and frequent storms may be considered a sufficient cause to overcome the attraction which holds them to the parent mass. In their next stage they exhibit the process of decay, being found fifty or sixty miles from the land, and for the most part with their surfaces inclined at a considerable angle to the horizon. This is caused by a change in the position of the centre of gravity, arising from the abrading action of the waves.

By our observations on the temperature of the sea, it is evident that these ice-islands can be little changed by the melting process before they reach the latitude of 60°. The temperature of the sea (as observed by the vessels going to and returning from the south) showed but little change above this latitude, and no doubt it was at its maximum, as it was then the height of the summer season.

During their drift to the northward, on reaching lower latitudes, and as their distance from the land increases, they are found in all stages of decay; some forming obelisks; others, towers and Gothic arches; and all more or less perforated: some exhibit lofty columns, with a natural bridge resting on them of a lightness and beauty inconceivable in any other material.

While in this state, they rarely exhibit any signs of stratification, and some appear to be formed of a soft and porous ice; others are quite blue; others, again, show a green tint, and are of a hard flinty ice. Large ice-islands are seen that retain their tabular tops nearly entire until they reach a low latitude, when their dissolution rapidly ensues; whilst some have lost all resemblance to their original

formation, and had evidently been overturned. The process of actually rending asunder was not witnessed by any of the vessels, although in the Flying-Fish, when during fogs they were in close proximity to large ice-islands, they inferred from the loud crashing, and the sudden splashing of the sea on her, that such occurrences had taken place. As the bergs gradually become worn by the abrasion of the sea, they in many cases form large overhanging shelves, about two or three feet above the water, extending out ten or twelve feet; the under part of this projecting mass exhibits the appearance of a collection of icicles hanging from it. The temperature of the water when among the icebergs was found below or about the freezing point.

I have before spoken of the boulders embedded in the icebergs. All those that I had an opportunity of observing apparently formed a part of the nucleus, and were surrounded by extremely compact ice, so that they appear to be connected with that portion of the ice that would be the last to dissolve, and these boulders would therefore in all probability be carried to the farthest extent of their range before they were let loose or deposited.

The ice-islands, on being detached from their original place of formation by some violent storm, are conveyed to the westward by the south-east winds which are prevalent here, and are found, the first season after their separation, about seventy miles north of the barrier. This was inferred from the observations of both the Vincennes and Porpoise, the greatest number having been found about that distance from the barrier. That these were recently detached is proved by their stratified appearance ; while those at a greater distance had lost their primitive form, were much worn, and showed many more signs of decay. Near the extreme point of the barrier visited, in longitude 97° E., latitude 62° 30′ S., and where it begins to trend to the westward, vast collections of these islands were encountered. From this point they must pass to the northward during the next season, partly influenced by the current, and partly scattered by the prevailing winds, until they reach the sixtieth degree of latitude, when they encounter the easterly and north-easterly streams that are known to prevail, which carry them rapidly to the north.

Our data for their actual drift, though not altogether positive, are probably the best that can be had, and will go far towards ascertaining the velocity of their progress to lower latitudes; our observations also furnish some estimate of the time in which they are formed. On our way south, we did not fall in with ice-islands until we reached latitude 61° S. The Peacock was the first to return, and nearly upon the track by which we had gone south ; the last seen by her was in 55° S. The Vincennes, on her return fifty days later, saw them in 51° S. The Porpoise, about the same time, in 53° S. The observation in the Vincennes gives a distance of ten degrees of latitude, or six hundred miles, to be passed over in fifty days, which would give about half a mile an hour ; or, taking the Peacock's observations, a more rapid rate would be given, nearly three-fourths of a mile. Many icebergs were met in the latitude

of 42° S., by outward-bound ships to Sydney, in the month of November; these, I learned, were much worn, and showed lofty pinnacles, exhibiting no appearance of having ever been of a tabular form. These no doubt are such as were detached during a former season, and being disengaged from the barrier, would be naturally, early the next season, drifted by the easterly current as well as the westerly wind, and would pursue the direction they give them. They would therefore be driven to the north-east as far as the south-east winds prevail, and when these veer to the westward would receive an easterly direction. It is where these winds prevail that they are most frequently found by the outward-bound vessels —between the latitudes of 40° and 50° S.

Respecting the period of time required for the formation of these ice-islands, much light cannot be expected to be thrown on the subject; but the few facts derived from observations lead to some conclusions. Many of them were measured, and their altitude found to be from fifty to two hundred and fifty feet; eighty distinct stratifications were counted in some of the highest, and in the smallest thirty, which appeared to average a little more than two feet in thickness. Supposing the average fall of snow in these high latitudes to be an inch a day, or thirty feet a year, the largest icebergs would take more than thirty years to form. They were seen by us in all the stages of their growth, and all bore unequivocal marks of the same origin. The distance from the land at which they were forming, fully satisfied me that their fresh water could only be derived from the snows, &c.

The movement of the ice along the coast is entirely to the westward, and all the large ranges of ice-islands and bergs were found in that direction, while the eastern portion was comparatively free from it. A difference was found in the position of the floe-ice by the different vessels, caused rather by the wind than by the tide. When the Vincennes and Porpoise passed the opening by which the Peacock entered, it was found closed, although only twenty-four hours had elapsed. It has been seen that the ice had much movement during the time the Peacock was beset by it, and the bay was all but closed when she effected her escape. Another instance occurred, where the Porpoise, in about the longitude of 130° E., found the impracticable barrier a few miles farther south than the Vincennes did six or seven days after; but this fact is not to be received as warranting any general conclusion, on account of the occurrence of south-east gales during the intermediate time. The trials for currents have, for the most part, shown none to exist. The Porpoise, it is true, experienced some, but these were generally after a gale. If currents do exist, their tendency is westward, which I think the drift of the ice would clearly prove. The difference between the astronomic positions and those given by dead-reckoning, was of no avail here as a test,* for the courses of the vessels among the ice were so tortuous, that the latter could not be depended upon.

* The fact of there being no northerly current along this extended line of coast, is a strong proof in my mind of its being a continent, instead of a range of islands.

The winds which prevail from the south-west to the south-east occasionally bring clear weather, interrupted by flurries of snow; the north wind is light, and brings thick fogs, attended by a rise of temperature. Extremes of weather are experienced in rapid succession, and it is truly a fickle climate.

The evidence that an extensive continent lies within the icy barrier, must have appeared in the account of my proceedings, but will be, I think, more forcibly exhibited by a comparison with the aspect of other lands in the same southern parallel. Palmer's Land, for instance, which is in like manner invested with ice, is so at certain seasons of the year only, while at others it is quite clear, because strong currents prevail there, which sweep the ice off to the north-east. Along the Antarctic Continent, for the whole distance explored, which is upwards of fifteen hundred miles, no open strait is found. The coast, where the ice permitted approach, was found enveloped with a perpendicular barrier, in some cases unbroken for fifty miles. If there was only a chain of islands, the outline of the ice would undoubtedly be of another form; and it is scarcely to be conceived that so long a chain could extend so nearly in the same parallel of latitude. The land has none of the abruptness of termination that the islands of high southern latitudes exhibit; and I am satisfied that it exists in one uninterrupted line of coast, from Ringgold's Knoll, in the east, to Enderby's Land, in the west; that the coast (at longitude 95° E.) trends to the north, and this will account for the icy barrier existing, with little alteration, where it was seen by Cook in 1773. The vast number of ice-islands conclusively points out that there is some extensive nucleus which retains them in their position; for I can see no reason why the ice should not be disengaged from islands, if they were such, as happens in all other cases in like latitudes. The formation of the coast is different from what would probably be found near islands, soundings being obtained in comparatively shoal water; and the colour of the water also indicates that it is not like other southern lands, abrupt and precipitous. This cause is sufficient to retain the huge masses of ice, by their being attached by their lower surfaces instead of their sides only.

Much inquiry and a strong desire has been evinced by geologists, to ascertain the extent to which these ice-islands travel, the boulders and masses of earth they transport, and the direction they take.

From my own observations, and the information I have collected, there appears a great difference in the movements of these vast masses; in some years great numbers of them have floated north from the Antarctic Circle, and even at times obstructed the navigation about the capes. The year 1832 was remarkable in this respect; many vessels, bound round Cape Horn from the Pacific, were obliged to put back to Chili, in consequence of the dangers arising from ice; while, during the preceding and following years, little or none was seen: this would lead to the belief, that great changes must take place in the higher latitudes, or the prevalence of some cause to detach the ice-islands from the barrier in such great quantities as to cover almost the entire section of the ocean south

of the latitude 50° S. Taking the early part of the (southern) spring, as the time of separation, we are enabled to make some estimate of the velocity with which they move: many masters of vessels have met them some six or seven hundred miles from the barrier, from sixty to eighty days after this period, which will give a near approximation to our results heretofore stated.

The season of 1839 and 1840 was considered as an open one, from the large masses of ice that were met with in a low latitude, by vessels that arrived from Europe at Sydney; many of them were seen as far north as lat. 42° S.

The causes that prevail to detach and carry them north are difficult to assign. I have referred to the most probable ones that would detach them from the parent mass in their formation. Our frequent trials of currents, as has been stated, did not give us the assurance that any existed; but there is little doubt in my mind that they do prevail. I should not, however, look to a surface current as being the motive power that carries these immense masses at the rate they move; comparatively speaking, their great bulk is below the influence of any surface current, and the rapid drift of these masses by winds is still more improbable; therefore I conceive we must look to an under current, as their great propeller. In one trial of the deep-sea thermometer, we found the temperature beneath four degrees warmer than the surface. Off Cape Horn, the under temperature was found as cold as among the ice itself; repeated experiments have shown the same to occur in the arctic regions. From this I would draw the conclusion that changes are going on, and it appears to me to be very reasonable to suppose that at periods, currents to and from the poles should at times exist; it is true, we most generally find the latter to prevail, as far as our knowledge of facts extends, but we have not sufficient information yet to decide that there is not a reflow towards the pole; the very circumstance of the current setting from the higher latitudes, would seem a good argument that there must be some counter-current to maintain the level of the waters. These masses, then, are most probably carried away in the seasons when the polar streams are the strongest, and are borne along by them at the velocity with which they move: that these do not occur annually may be inferred from the absence of ice-islands in the lower latitudes; and that it is not from the scarcity of them, those who shared the dangers of the Antarctic cruise will, I have little doubt, be ready to testify; for, although great numbers of them studded the ocean that year, yet the narrative shows that vast numbers of them were left.

The specific gravity of the ice varies very much, as might naturally be expected; for while some of it is porous and of a snowy texture, other islands are in great part composed of a compact blue flinty ice. This difference is occasioned by the latter becoming saturated with water, which afterwards freezes.

On the ice there was usually a covering of about two feet of snow, which in places had upon it a crust of ice not strong enough to bear *the weight* of a man. Those ice-islands, which after having been

once seen, were again passed through immediately after a gale, were observed to be changed in appearance; but though for forty-eight hours a severe storm had been experienced, they had not undergone so great a transformation as not to be recognised. They also appeared to have shifted their position with regard to one another, their former bias and trendings being broken up.

During our stay on the icy coast, I saw nothing of what is termed pack-ice—that is, pieces forced one upon the other by the action of the sea or currents.

On the 21st, the weather became unsettled, with light westerly winds, and we made but little progress to the westward. The barrier, at 6 P.M., was seen trending to the westward. In consequence of indications that threatened bad weather, I deemed it useless risk to remain in the proximity of so many ice-islands; and a strong breeze, with squally weather, having already set in, I took advantage of it, feeling satisfied that our further continuance in this icy region would not only be attended with peril to the ship, but would cause a waste of the time which was demanded by my other duties; and having nearly three thousand miles to sail to our next port (Bay of Islands), I made up my mind to turn the head of the vessel northward.

I therefore had the officers and crew called aft, thanked them all for their exertions and good conduct during the trying scenes they had gone through, congratulated them on the success that had attended us, and informed them that I had determined to bear up and return north.

Having only twenty-five days' full allowance of water, I ordered its issue to be reduced to half allowance.

I have seldom seen so many happy faces, or such rejoicings, as the announcement of my intention to return produced. But although the crew were delighted at the termination of this dangerous cruise, not a word of impatience or discontent had been heard during its continuance. Neither had there been occasion for punishment; and I could not but be thankful to have been enabled to conduct the ship through so difficult and dangerous a navigation without a single accident, with a crew in as good, if not in a better condition than when we first reached the icy barrier. For myself, I indeed felt worse for the fatigues and anxieties I had undergone; but I was able to attend to all my duties, and considered myself amply repaid for my impaired health by the important discoveries we had made, and the success that had attended our exertions.

I shall now leave the Vincennes to pursue her route northward, and return to the Porpoise, the result of whose proceedings will be detailed in the following chapter.

CHAPTER XIX.

ANTARCTIC CRUISE—(CONTINUED.)

Proceedings of the Porpoise from the twenty-second to the thirtieth of January—French Squadron seen — Its Commander refuses to speak the Porpoise — Proceedings up to the third of February—Gale—Further Proceedings to the twelfth of February — Specimens of Rock obtained — Western limit of her Cruise — Return to the eastward—Porpoise stands to the northward—Auckland Islands—Porpoise arrives at the Bay of Islands—Cruise of the Flying-Fish—Landing at Macquarie's Island—Proceedings of the Flying-Fish up to the 4th of February—State of her Crew—Their Letter to Lieutenant Pinkney—He resolves to return—Arrival of the Flying-Fish at the Bay of Islands—Events during the return of the Vincennes—She Fails to reach Van Diemen's Land—Arrival of the Vincennes at Sydney—Peacock found there—Return of the Peacock from the Icy Barrier—She makes Macquarie's Island—She arrives at Sydney—State of the Peacock—Hospitalities received at Sydney.

ON the 22nd January, 1840, the Porpoise lost sight of the Peacock, and continued beating to the south-west. The weather was extremely cold; sea-water froze on being a few minutes in the bucket on deck. Some shrimps were caught. The water at 3 P. M. was much discoloured; got a cast of the lead with 200 fathoms: no bottom; found the current south by east three-fourths of a mile per hour. At 4h. 30m., passed large icebergs, one of which had several dark horizontal veins, apparently of earth, through it; large quantities of floe and drift-ice to the southward; the sea very smooth. A report of high land was made this morning; indeed everything indicated the proximity of land. The number of seals, whales, penguins, shrimps, &c., had very much increased. The pure white pigeons were also seen in numbers.

23rd. Countless icebergs in sight; the sea quite smooth; not the slightest motion perceptible. At meridian, they were in latitude 66° 44′ S., longitude 151° 24′ E., and close to the barrier, which appeared quite impenetrable, as far as the eye could reach from aloft, to the north-north-west and north-north-east, with numberless immense ice-islands entangled and enclosed in it in all directions. The position they occupied seemed an inlet of elliptical shape, with an opening to the north. It was needless to count the many scattering

islands of ice distinct from the vast chain ; intermingled with field-ice, they studded the gulf like so many islands of various shapes and dimensions. At 2h. 25m., a sail was discovered on the lee-bow ; kept off to communicate, supposing it to be the Vincennes or Peacock. At 2h. 30m., the Peacock was made out on the southern board, showing no disposition to communicate ; showed our colours, and hauled to the westward.

24th. The day was remarkably fine, such as is seldom experienced in this region. The water appeared much discoloured, and of a dirty olive-green colour. At meridian, they again made the field-ice, and tacked to the northward, passing through large quantities of ice-islands ; weather looking bad, with occasional light snow-storms.

25th. Part of this day was clear and pleasant, though snow fell at intervals ; the field-ice was in sight several times, and many ice-islands of great size and beauty. Penguins were swimming round, and also several shoals of black fish ; a black albatross was shot ; towards night the weather became very thick ; they were in longitude 150° E., latitude 65° 56′ S.

26th. Fresh winds blowing from the eastward ; during the first few hours, a thick snow-storm ; at 4 A. M. it cleared ; at six o'clock made a sail ; the strange sail fired a gun and made signal, when we bore down and spoke her ; she proved to be the Vincennes ; compared chronometers, and received rate ; bore off to the westward under all sail : found the drift and floe-ice very thick, and were with great difficulty enabled to navigate through it ; wind fresh, with a long swell from the south-west ; at 5h. 30m., the ice increasing in quantity ; found it was necessary to haul off. Lost sight of the Vincennes ; weather very threatening. The course during the day proved a very tortuous one ; many penguins resting on the ice ; their gait is an awkward kind of strut.

Received orders to-day by signal to meet the Vincennes along the icy barrier between the 20th and 28th of next month.

27th. This day proved clear and cold ; wind from the south-west ; ice forming rapidly on the vessel ; at meridian, lost sight of the Vincennes ; very many ice-islands in sight ; latitude 65° 41′ S., longitude 142° 31′ E. On this day, Lieutenant-Commandant Ringgold determined with the fair wind to pass to the extreme limit of his orders, longitude 105° E. ; being of opinion he would thereby save time, and be enabled more effectually to examine the barrier with what he thought would be found the prevailing wind, viz., that from the westward ; in this, however, he was mistaken.

The 28th set in with a light breeze from east-north-east ; made all sail ; at 5 A. M., wind increasing rapidly, snow falling fast, and weather becoming thick ; at six o'clock, made the floe and drift-ice ; shortened sail, and hauled off to the north-west, it becoming so thick as to render any advance unsafe ; until meridian, very strong winds from the eastward, the brig under close-reefed topsails ; at 2 P. M., found it difficult and hazardous to proceed, passing within a short distance of ice-islands, and just seeing them dimly through the

obscurity; at three, the brig was hove-to, and Lieutenant-Commandant Ringgold says, in reference to their situation—

"I felt great anxiety to proceed, but the course was so perilous, the extent and trend of the barrier so uncertain, I could not reconcile it with prudence to advance. The frequent falling in with fields of drift-ice, the numerous and often closely-grouped chains of icebergs, were sufficient to point out discretion. The long-extended barrier was encountered in latitude 65° 8′ S.; at twelve to-day our position was 65° 16′ S.; it is easy to perceive the possibility of a trend northerly again, which would have placed us in a large and dangerous gulf, with a heavy gale blowing directly on, without a hope of escape.

"At 8 P. M., blowing very heavy; the snow falling rendered vision beyond a few yards impossible; I have seldom experienced a heavier blow, and towards the conclusion the squalls were severe and frequent."

The barometer at 3 A. M. stood at 28·200 in., the lowest point it reached during the gale. The temperature of the air was 26°.

The severe gale continued during the 29th, with a heavy sea, and snow falling thickly; at 8 A. M. the gale abated, and the clouds broke away; through the day the sun occasionally out; the weather appeared unsettled; the sun set red and fiery; the latitude was observed 64° 46′ S., longitude 137° 16′ E.

On the 30th they stood again to the south-west; at 2 A. M. they made the barrier of field-ice, extending from south-east to west, when it became necessary to haul more to the north-west; the weather becoming thick with a heavy fall of snow, at four o'clock, the wind increasing, compelled them to shorten sail; at 7h. 30m. the ice in fields was discovered close aboard, heading west; at this time hauled immediately on a wind to the north-east, and soon passed out of sight of the ice and out of danger; during the day blowing a gale of wind, and very heavy sea running, passing occasional ice-islands: at meridian, being clear of the barrier, the brig was hove-to under storm-stails, to await the clearing of the weather. In the afternoon the weather showed signs of clearing; the sun coming out, again made sail to approach the barrier; no ice in sight; great numbers of black petrels about.

At 4 P. M. discovered a ship ahead; and shortly after another was made, both standing to the northward; the brig hauled up to the north-west, intending to cut them off and speak them, supposing them to be the Vincennes and the Peacock; shortly afterwards they were seen to be strangers, being smaller ships than our own; at 4h. 30m. the Porpoise hoisted her colours. Knowing that an English squadron under Captain Ross was expected in these seas, Lieutenant-Commandant Ringgold took them for his ships, and was, as he says, "preparing to cheer the discoverer of the North Magnetic Pole."

"At 4h. 50m., being within a mile and a-half, the strangers showed French colours; the leeward and sternmost displayed a broad pennant; concluded now that they must be the French discovery ships *under* Captain D'Urville, on a similar service with ourselves;

desirous of speaking and exchanging the usual and customary compliments incidental to naval life, I closed with the strangers, desiring to pass within hail under the flag-ship's stern. While gaining fast, and being within musket-shot, my intentions too evident to excite a doubt, so far from any reciprocity being evinced, I saw with surprise sail making by boarding the main tack on board the flag-ship. Without a moment's delay, I hauled down my colours, and bore up on my course before the wind."

It is with regret that I mention the above transaction, and it cannot but excite the surprise of all that such a cold repulse should have come from a French commander, when the officers of that nation are usually so distinguished for their politeness and attention. It was with no small excitement I heard the report of it—that the vessels of two friendly powers, alike engaged upon an arduous and hazardous service, in so remote a region, surrounded with every danger navigators could be liable to, should meet and pass without even the exchange of common civilities, and exhibit none of the kind feelings that the situation would naturally awaken; how could the French commander know that the brig was not in distress or in want of assistance? By refusing to allow any communication with him, he not only committed a wanton violation of all proper feeling, but a breach of the courtesy due from one nation to another. It is difficult to imagine what could have prompted him to such a course.

At 6 P. M. the weather again was thick, with the wind south-easterly; field-ice again in sight; it commenced snowing, and the French ships were lost sight of. At 8 P. M. they passed in sight of large fields of ice and ice-islands; at 10h. 30m., the snow falling so dense and the weather so thick, that it was impossible to see the brig's length in any direction; she was hove-to, to await a change of weather.

The beginning of the 31st the gale continued; at 7 A. M. moderating, they again made sail to the westward; in half an hour discovered a high barrier of ice to the northward, with ice-islands to the southward; at 10 A. M. they found themselves in a great inlet formed by vast fields of ice, which they had entered twelve hours previously; the only opening appearing in the eastward, they were compelled to retrace their steps, which they effected at 8 P. M., passing some ice-islands which they recognised as having been seen the evening before. They now found themselves out of this dangerous position, and, passing the point, kept away to the westward. Lieutenant-Commandant Ringgold judged it prudent to heave-to during the night, on account of the darkness.

February 1. The immense perpendicular barrier encountered yesterday was now in sight, trending as far as the eye could reach to the westward; it was of tabular form, from one hundred and fifty to one hundred and eighty feet in height, of solid compact ice, resembling a long line of coast; wind moderate from the south-east—a brilliant blink extending along and elevated above the barrier. At 4 P. M. they arrived at the end of this barrier, and found it trending off to the southward, seeming as if numbers of icebergs

had been broken from the barrier by some mighty force, exceeding in numbers anything that had yet been seen, and extending as far south as could be distinguished, interspersed with much drift and floe-ice. On the southern horizon sixty-four ice-islands were counted, exclusive of many near them, and those that were not distinguishable from the barrier.

The current was tried here, and found setting south-east, nearly a mile an hour. Pigeons around in numbers, also whales and large flocks of penguins.

The nights now evidently lengthened, thus adding to the cares and anxieties attendant on this navigation. It was fortunate that the prevailing winds were from the south-east and south-west, or coming off the ice. If they had blown from the northward, they would have been attended with danger, and might have proved fatal to the vessel.

2nd. At meridian, in longitude 130° 36′ E., and latitude 65° 24′ S. They were prevented from proceeding further to the southward by the impenetrable icy barrier. At this time they had one hundred large ice-islands in sight, without counting any of the smaller bergs, which were innumerable; saw great numbers of penguins and some seals (Phoca proboscida.) The current was tried here, and found setting as yesterday, and at the same rate.

At 8 P. M. were obliged to retrace their steps to the northward, the weather becoming thick, with light snow. At eleven, constant and thick snow-storm, and unable to see any distance; the gale continuing, lay-to under a close-reefed main topsail.

3rd. A gale from south-east, heavy sea rising; occasionally passing ice-islands and field-ice. The gale continued throughout the day, but moderated towards midnight; the sea was heavy, the weather thick, and the brig completely covered with ice and snow. The barometer fell to 28.040 in. Temperature of the air 32°.

4th. Although the wind was moderate, yet it was so thick and foggy as to preclude bearing up. Towards meridian it cleared sufficiently for them to bear up and continue their examinations. To-day the current was found west-north-west, three-quarters of a mile per hour.

On the 5th they had a beautiful day—no climate or region, Lieutenant Commandant Ringgold remarks, could have produced a finer; this gave them an opportunity of thoroughly drying everything and ventilating the vessel, which was much required; standing to the northward in order to make a long board to the westward; the longitude 127° 8′ E., latitude 63° 22′ S.; few ice-islands in sight, and those appeared much worn, showing marks of rapid decay, with isolated pieces—some standing erect, while others were inclined, resembling fragments of columns and broken arches. This night there was a brilliant display of the aurora australis; at eleven o'clock there was perceived in the northern horizon a luminous arched cloud, at 15° of altitude, extending from north-west to north-east; the stars were partially obscured in the direction of the clouds; the pale flashes or coruscations vanishing very suddenly, were succeeded by spiral columns or streamers, converging with

great velocity towards the zenith ; brilliant flashes would again issue forth from the remote parts of the cloud, succeeded in quick succession by perpendicular rays emanating from the cloud, having the shape of a rounded column or basaltic-shaped cylinder, which in contrast with the dark cloud showed in broad relief. As the cloud seemed to rise, the scene became a most interesting one, from the varied and oft-changing coruscations ; finally the arc assumed a contracted and elliptical form, vivid streamers bursting forth as if from a corona, converging all towards the zenith, until they were lost in the coming day. The magnetic needle did not show any disturbance. The barometer stood stationary during its continuance. The sympiesometer indicated a slight fall. At the time there was no wind ; the stars were brilliant, and all visible.

6th. During this day they had light winds ; pursued their course to the westward ; wind from the southward. In the afternoon they had light flurries of snow, and at times hail ; the sea perfectly smooth, and few icebergs in sight. Longitude 125° 32′ E., latitude 63° 34′ S.

During the 7th, the winds variable ; at eight tacked to the southward, in order to close in with the barrier ; the wind again hauling, tacked ; the number of icebergs increasing ; all those seen for the few days past have appeared variously shaped, much worn and fractured, some evidently overturned, and immense arches or caves washed in them ; they were totally distinct from those seen to-day.

8th. A brisk breeze from the southward, which carried them on rapidly to the westward. At meridian discovered compact fields of ice, with many stupendous ice-islands enclosed within it ; the ice appeared more broken than any hitherto seen, with many fragments of icebergs resembling spires and broken columns. Altered their course to clear the barrier, and by two o'clock they had extricated themselves. Penguins, whales, brown pigeons, and the black albatross, were seen near the barrier. In the afternoon the snow fell in beautiful shining spiculæ, resembling stars, usually of six, but sometimes of twelve points ; they varied from one-eighth to one-sixteenth of an inch in diameter.

The barrier was occasionally seen, and the ice-islands began again to assume a tabular form ; towards the close of the day, very many whales, penguins, &c. seen. Longitude 116° E., latitude 64° 1′ S.

On the 9th, fresh breezes from the south-east ; at 10 A. M. made the barrier again, the weather being favourable ; at 4 P. M. standing along the barrier, through drift-ice, with countless icebergs in sight ; good observations were obtained, placing them in longitude 112° 41′ E., and latitude 64° 55′ S. At 10 P. M. some few appearances of the aurora australis in the northern sky, light coruscations streaming upwards, but quite faint, and only for a very short period ; many stars and several constellations were traced without difficulty. The sea was smooth ; lowered a boat to try the current, but found none. The dip was 83° 30′.

On the morning of the 10th the weather cleared off, and gave them an opportunity of ventilating the vessel ; closed in with the field-ice for the purpose of obtaining a supply of water, and the

boats were dispatched to take in ice; the longitude was found to be 110° 34′ E., latitude 65° 12′ S.; the field-ice here was found to be interspersed with many large ice-islands and bergs. At five o'clock the boats returned with ice. The current was found to be setting north-north-east, five fathoms an hour; the weather continued clear and healthful; made the field-ice ahead and on the lee bow; shortly after, cleared it. The twilight in the southern horizon presented a beautiful appearance, a bright salmon colour radiating from the sun, throwing its tints over the whole sky, tinging the few cirro-stratus clouds that were in the northern quarter, and giving a soft colour to the immense ice-islands that were slumbering along the barrier, and aiding to lend to the scene its peculiar character of silence, solitude, and desolation.

The weather was clear and pleasant on the 11th, with a light wind from the south-east; many penguins and whales were seen. The icebergs were numerous, and some of great beauty, with almost regularly turned arches, and of the most beautiful aqua-marine tints. Longitude was 106° 10′ E., latitude 65° 28′ S.

During the morning of the 12th, running along high broken fields of ice, with a light breeze from the southward; weather overcast; discovered a large piece of ice of a dark brown colour floating by, resembling a piece of dead coral; lay-to, and sent a boat to bring it alongside; obtained from it several pieces of granite and red clay which were frozen in; the ice was extremely hard and compact, composed of alternate layers of ice and snow; the strata of snow was filled with sand. The icebergs near at the time presented signs of having been detached from land, being discoloured by sand and mud. A number of white procellaria were obtained. The ice-islands again appeared in great numbers. At 3 P. M. hauled up, steering westerly into a very deep inlet or gulf, formed by extensive fields of ice. Believing from the indications of the morning that land could not be far off, in approaching the head of this inlet, several icebergs had the appearance of being in contact with the land, having assumed a dark colour from the clay and sand blown upon them; the whole group around seemed as if in the vicinage of land; sounded with two hundred fathoms; no bottom: also tried the current, but found none. Towards night, it becoming thick with snow, they continued under snug sail, intending to examine more closely the barrier and inlets in the morning.

13th. At 3 A. M. they again made sail to the westward, with wind from the east; at six o'clock they had snow-squalls, rendering it unsafe to proceed and impossible to make any discovery. A few hours afterwards the weather cleared a little; made sail again to the north-west. At meridian overcast, with a stiff south-east breeze; at 1h. 30m., approached to within pistol-shot of the barrier, observing much of the dark dirty ice interspersed with the field-ice; kept along it very closely, tracing the barrier northerly; observed a large black object on the ice; shortened sail, and dispatched a boat; it proved to be a large mass of black, red, and mixed-coloured earth, resting upon a base of snow and ice, situated some fifty yards back from the margin of the field-ice, and was found to be red earth,

mixed with granite and sandstone. Penguins were also procured alive. At 3 P. M. they again followed the trend of the ice in a north-westerly direction; a vast field, of uninterrupted extent, seemed moving along to the westward, the large icebergs containing dark and discoloured masses, with frequent strata of the same description. They were still at a loss to account for these frequent signs of land; discoloured pieces of ice seemed mingled with the general mass: they were often seen along its margin, and appeared as though the icebergs had been turned over, presenting collections as if from the bottom. Great numbers of sperm whales were seen this day. At 8 P. M. they passed out northwardly with a light breeze and smooth sea, through an extensive chain of icebergs, which seemed grouped off the western point of the barrier; upwards of one hundred of them were counted, several of which were very much discoloured. The sunset was brilliant, bright crimson tints illuminating the icebergs, and producing a beautiful effect.

On the 14th, Lieutenant-Commandant Ringgold, having passed a few degrees beyond his instructions, that is, having reached longitude 100° E., and latitude 64° 15′ S., now commenced his return, in order to examine those places in the barrier which he had been prevented from doing on his way west.

15th. Continued their course to the eastward. Lieutenant-Commandant Ringgold frequently refers to the happy and cheerful condition of his crew, and their freedom from all disease.

On the 16th and 17th, they were employed in getting to the eastward, passing many worn and shattered bergs. On the evening of the latter day, they had another exhibition of the aurora australis, extending from north-north-west to east; it was of a light straw colour, but very indistinct; the luminous bank was at an elevation of 30°. The light in the north-west was most distinct, radiating from a nucleus above the horizon towards the zenith, where it formed a beautiful halo. It was not of long duration. Many ice-islands and bergs in sight; upwards of two hundred, nearly all of a tabular form—the sides of many of them beautifully excavated by the waves, presenting innumerable gothic arches, extending often to a considerable distance into the body of the ice.

Their position on the 18th was in longitude 114° 17′ E., latitude 62° 37′ S. Flocks of blackbirds were very numerous, but not near enough to be taken.

On the 19th and 20th, proceeding to the eastward. On the 20th, they had but few ice-islands in sight, although they were seventy miles further south than on the 18th, when the largest number ever seen by them at one time was visible; having reached the longitude of 120° E., they again steered south, to make the barrier. The current was tried, but none found.

The 21st proved stormy, with strong breezes from the south-east, and much snow and rain, which covered the brig with ice. Field-ice was seen ahead, when they again stood to the eastward, longitude being 121° 30′ E., latitude 65° 15′ S. On this night they experienced a heavy gale, during which the barometer fell to 27.50 in., where it remained during part of the 22nd. The squalls

were very severe, accompanied with snow, sleet hail, and heavy seas; they had now reached longitude 122° E., and latitude 64° 9′ S.

February 22nd, being Washington's birthday, the colours were hoisted, and the crew received an extra allowance. Lieutenant-Commandant Ringgold took this occasion to express to them his satisfaction for the manner in which they had performed their duties during the present cruise, and that their conduct would be duly represented to the commander of the Expedition, and the government.

On the 23rd the weather was again thick with snow and mist.

On the 24th they had reached longitude 126° E., and latitude 64° 29′ S. On this day they again sighted the barrier; when, having completed what he deemed a full execution of his instructions, Lieutenant-Commandant Ringgold determined to put the brig's head north, which was accordingly done.

Strong winds and gales continued for the next three days. On the 27th they again found themselves in east variation, in longitude 138° E., latitude 60° 8′ S. The white albatross had now again become common.

On the 29th they had a beautiful display of the aurora australis; the whole southern hemisphere was covered with arches of a beautiful straw colour, from which streamers radiated, both upwards and downwards, of almost a lustrous white; numbers of concentric arches would occasionally show themselves, of a width of a few feet, uniting to form a complete canopy for a moment, and then vanish. The arches extended from east-south-east to west-north-west; the display continued for over two hours; the stars were seen above them. Previous to, and during its continuance, the thermometer indicated a change of four degrees, and the wind shifted to the southward.

On the 1st of March, in latitude 55° S., and longitude 140° E., they passed the last ice-island.

On the 2nd, great numbers of pyrosoma of large size were passed.

On the 4th, some faint appearances of the aurora australis were seen.

On the 5th, the Lord Auckland Isles were descried. Mr. Totten, who was officer of the deck, was accidentally knocked overboard by the trysail-boom, but was fortunately rescued without injury. Immense numbers of albatrosses were about. The aurora was again seen in the southern hemisphere.

On the 7th they anchored in the harbour of Sarah's Bosom, in twelve fathoms water. During their brief stay here, all were actively employed wooding and watering, for which this harbour affords a fine opportunity. Assistant-Surgeon Holmes made several excursions on the largest island, of which he gives the following account:

"I found it very thickly covered with trees, in its less elevated parts; as few of them were of any size, I found no small difficulty in penetrating and making my way through them; in many places it was absolutely impossible. It was only after a long and fatiguing walk that I succeeded in reaching the summit of that part of

the island, near which the brig was anchored, where I found the trees less numerous. A thick growth of underwood and dwarf bushes, intermixed with ferns, concealed the surface rendering it difficult to walk. Even on the places apparently most level, the ground was very unequal, and a single step would sometimes send me nearly up to the neck into a hollow filled with large fern fronds. On the highest parts, the small level spots were covered only with moss, and a description of tall grass, and in places also a kind of grain grew abundantly. The ground was dry everywhere, all the water being found in the streams, which were numerous and pure. Near the summit, the ground was perforated in all directions, probably by birds, who rear their young in these holes. Many of the birds, principally procellaria, were sitting on the ground: they made no effort to escape, but suffered themselves to be taken without any attempt at resistance.

"The forest was full of small birds, of three or four different species, which were perfectly fearless; one little fellow alighted on my cap as I was sitting under a tree, and sang long and melodiously; another, and still smaller species, of a black colour spotted with yellow, was numerous, and sang very sweetly; its notes were varied, but approximated more nearly to the song of our blackbird; occasionally a note or two resembled the lark's. Hawks, too, were numerous, and might be seen on almost all the dead trees, in pairs. Along the sea coast were to be seen the marks of their ravages upon the smaller birds. The sea birds were very numerous on the opposite side of the island, sitting upon the cliffs or hovering over the islet."

On the western side of the Auckland Island, the underbrush and young trees are exceedingly thick. Dr. Holmes remarks, that it was impossible to penetrate; that he was occupied fully an hour in making his way for a hundred yards, where, to all appearance, a human step had never before trodden. There was not a vestige of a track; old trees were strewn about irregularly, sometimes kept erect by the pressure on all sides. Some trees were seen upwards of seventy feet in height, although the generality were only from fifteen to twenty; every part of the island was densely covered with vegetation; the soil, from the decomposition of vegetable matter, has acquired considerable richness; specimens of all the plants were collected.

These islands have in many places the appearance of having been raised directly from the sea; the cliffs consisted of basalt, and were generally from fifty to ninety feet perpendicular.

The Auckland Islands are the resort of whalers, for the purpose of refitting and awaiting the whaling season, which occurs here in the months of April and May. Near the watering-place a commodious hut has been erected by a French whaler. Near by was another in ruins, and close to it the grave of a French sailor, whose name was inscribed on a wooden cross erected over it. Some attempts at forming a garden were observed at one of the points of Sarah's Bosom, and turnips, cabbage, and potatoes were growing finely, which, if left undisturbed, will soon cover this portion of the island; to these a few onions were added. Besides the birds, the only living

creature seen by Dr. Holmes was a small mouse: it made no attempt to get out of his way, and seemed to have no fear when taken; being consigned to a pocket, he soon contrived to escape. Many of the smaller islands of this group were visited; they closely resemble the larger one. Penguins were numerous, and of a variety of colours.

These isles have a picturesque, wild, steep, and basaltic appearance: the highest peak was estimated to be eight hundred feet; the smaller has a less elevation; the general aspect of the land resembles the region around Cape Horn. The harbour of Sarah's Bosom is not the most secure: that of Lawrie's is protected from all winds, and has a large and fine streamlet of water at its head. The rocks are covered with limpets, and small fish of many varieties are caught in quantities among the kelp. The crew enjoyed themselves on chowders and fries. No geese were seen, and the only game observed were a few gray ducks, snipes, cormorants, and the common shag. The land birds are excellent eating, especially the hawks; and on the whole, it is a very desirable place at which to refit.

On the 9th of March they had finished, and were prepared for sea, but the weather was threatening and caused them to delay. The magnetic dip was found to be 73° 47′ 30″ S.

A whaler, under Portuguese colours, but commanded by an Englishman, arrived, and anchored in Lawrie's Cove, to await the coming of the whales! The night proved stormy; the wind at 10h. 30m. from the north-east, blowing very heavy in puffs. Towards noon it moderated, and at 2 P.M. they got under way, with a light breeze from the north-west, and stood to sea.

The latitude of Sarah's Bosom is 50° 38′ S.; the longitude 165° 28′ E.

On the 12th no current was found; latitude 49° 27′ S., longitude 168° 13′ E. The weather experienced from this port to New Zealand was very similar to that in passing from Cape Horn to Valparaiso: northerly winds with mist and fog prevailing, with a heavy sea. On the 17th they fell in with the whale-ship Mary and Martha, of Plymouth, Coffin, master, who informed them that there were at least one hundred whale ships cruising in the neighbouring seas; of these, several were seen. This will give some idea of the number of vessels employed, and how great a capital is engaged in this business.

On the 18th they had a gale from north-north-west, which lasted through the day, moderating at sunset. They were in latitude 43° 2′ S., longitude by chronometer, 175° 24′ E. The barometer sank to 29.30 in. A current was experienced setting north-west, in the direction of Cook's Straits.

On the 20th, in latitude 41° S., longitude 177° E., the current was found setting north-east by north, half a mile per hour. On the 22nd and 23rd they experienced a heavy gale from the south-east, when they were in longitude 179° 35′ E., and latitude 37° 52′ S.; during the morning of the latter day the wind hauled to the south-south-west; the barometer at 3 A.M., stood at 29.10 in.; the weather cleared, with the wind at south-west.

On the 26th they reached and anchored in the river Kawa-Kawa, in the Bay of Islands, off the American Consul's, about three miles

above its mouth. Many vessels were passed lying at anchor off the town of Kororarika. Here they found the tender Flying-Fish; all well.

The cruise of the latter will now be taken up from the 1st of January, on which day she parted company with the Vincennes, in consequence of having carried away a gaff, and being obliged to shorten sail, in doing which their jib-stay got adrift, and carried away the squaresail-yard before it could be secured. The vessel was in the meantime exposed to a heavy sea beating over her, and at midnight they were compelled to heave-to. They then steered for the first rendezvous, Macquarie Island, where they arrived on the 10th, in the afternoon, and saw the Peacock, but it becoming thick, they were not seen by that ship.

On the 11th, Acting-Master Sinclair landed for the purpose of placing a signal on the island, agreeably to instructions. The landing was found difficult and dangerous, and their description of the island agrees with that heretofore given of it from the notes of Mr. Eld, as being dreary and inhospitable. Large numbers of penguins, and small green and yellow parroquets were seen. Near where they landed they saw about twenty huge sea-elephants basking on the rocks, which did not seem to heed them; when disturbed, they would only throw their carcases over, open their mouths, utter a loud growl, and go to sleep again; no measurement was taken of them, and one which was killed, could not be taken in the boat. The soil was soft and spongy, yielding to the pressure of the feet. The staff and signal, being planted, they returned on board, and now passed the surf without difficulty.

On the 12th, they put away for the next rendezvous, Emerald Isle. They reached its position on the 14th, but nothing was seen of it; the weather was thick.

On the 16th, they kept off to the southward, with the wind from the south-west, accompanied with sleet and snow. In latitude 61° S., longitude 164° E., they saw the first ice. The next day, the 19th of January, the water was very much discoloured; got a cast of the lead in ninety fathoms; no bottom: passed a number of icebergs that were all flat on the top, with perpendicular sides.

On the 21st they made the icy barrier, in longitude 159° 36′ E., and latitude 65° 20′ S. From the number of icebergs and the frequency of snow-squalls, they found great danger in running through them, although the water was quite smooth.

On the 22nd the weather proved pleasant, and they followed the trend of the ice. The ice-islands still showed flat tops and perpendicular sides, and there were a number of birds, seals, and whales around them; they were at noon in longitude 158° 27′ E. On this day they were close by an iceberg, from the main body of which a large mass fell with a noise like thunder; the snow flying into the air resembled smoke, and the swell produced by the immersion of the fragment caused the schooner to roll water in on her deck. A number of large penguins were in sight, differing from any they had heretofore seen.

On the 23rd the weather was pleasant, and they had light winds from the southward and westward. Longitude 157° 49′ E., latitude

65° 58′ S. They continued coasting along the ice in search of an opening. At 8 P.M. they discovered several dark spots, which had the appearance of rocks, and on approaching the margin of the ice, they could make them out to be such with their glasses, but they were situated too far within the field-ice for a boat to get near them. This day being fine, an opportunity was afforded of drying the deck and clothes, and searing the seams with a hot iron. The vessel had been very wet, and her decks leaked badly, notwithstanding the thorough caulking and repairs she had received at Sydney: the crew were almost constantly wet, below as well as above deck.

On the 24th they were obliged to steer again to the northward, in consequence of making the barrier ahead. Sea-lions were seen on the ice. They continued to follow the barrier, which trended north-north-east; the compasses were very sluggish. On the 26th and 27th the weather became bad, with the wind to the northward and westward, accompanied by a heavy fall of snow: in the evening of the latter day, the wind hauled to the southward and westward, and brought clear weather. The 28th passed with clear weather, and several seals were about them.

The 29th was thick and snowy, with a north-east wind; passed through quantities of drift-ice, and by 2h. 30m. it had become so thick as to render a continuance of their course perilous; at 7 P.M. they again made the solid barrier, when it was blowing a stiff gale; at 9h. 30m. discovered the ice ahead, and on both beams; wore round to the northward and eastward, to retrace their steps; it was not long before they discovered a chain of ice-islands ahead, apparently connected by solid ice; about midnight a passage was discovered between two icebergs, through which they passed. It was now blowing a heavy gale, and having gained the open sea, they attempted to reef the foresail, but were unequal to the task, (four of the men being on the sick-list,) and were compelled to lay-to under the whole sail, which caused the vessel to labour very much, as well as to leak a great deal, and endangered her safety by making her fly into the wind, and get a stern-board in a high sea.

On the 30th, in the morning, the gale abated, and the weather became more pleasant than they had experienced for a number of days. They had reached the longitude of 150° 16′ E., latitude 65° 15′ S. On this day they again passed into blue water.

31st January was thick with snow; a north wind and heavy sea.

1st of February, they were running among ice, until they sighted the barrier, when they again hauled to the northward; a moderate gale blowing, with thick weather and a heavy sea, they were obliged to heave-to.

On the 2nd and 3rd, they were coasting the ice. In the afternoon of the 3rd they again had bad weather, which made it necessary to bring-to; surrounded by bergs and drift-ice; the latter, in case of striking, would have seriously injured the tender. The icebergs seen on these days had the appearance of recent formation; the tops flat, the sides perpendicular, and not worn by the action of the sea.

On the 4th, the gale continued, and the sea had risen to an extraordinary height; the weather was so thick that an iceberg could not be seen further than twice the length of the vessel. The tender was under too much sail, which caused her to labour dreadfully, in consequence of which she leaked in such a manner as to make it necessary to keep the pumps going almost continually. When they were stopped for a short time to rest the men, the water increased so as to reach the cabin-floor; the water came through the seams forward in such quantities as to wet every bed and article of clothing on the berth-deck. This was a great addition to the labour and discomfort of the crew, now reduced by sickness to four men, and the strength of these much impaired by previous sickness, excessive labour, and almost constant exposure. To relieve their situation as much as possible, Lieutenant Pinkney ordered them to make use of the cabin in common with the officers. To ease the pitching of the vessel, a quantity of coal was shifted aft; but although this was a partial relief, yet as she had too much sail on her, which they had been unable to reduce at the commencement of the gale, it was not sufficient to make her easy.

On the 5th, the gale began to abate, when the crew, through one of their number, presented a communication to Lieutenant Pinkney of which the following is a copy:

(Copy.)

We, the undersigned, the crew of the Schooner Flying-Fish, wish to let you know that we are in a most deplorable condition: the bed-clothes are all wet; we have no place to lie down in; we have not had a dry stitch of clothes for seven days; four of our number are very sick; and we, the few remaining number, can hold out no longer; we hope you will take it into consideration, and relieve us from what must terminate in our death.

(Signed) A. Murray. Thomas Darling.
John Anderson. James Daniels.
F. Beale. Joseph.
James Darling. John H. Weaver.

To Lieutenant Pinkney,
U. S. Schooner Flying-Fish.

On the receipt of this appeal, Lieutenant Pinkney addressed an order to the officers, a copy of which follows:

U. S. Schooner Flying-Fish,
Lat. 66° S., long. 143° E., Feb. 5th, 1840.

Gentlemen—You will furnish me with your opinion, and the reasons which induced that opinion of the propriety of any longer endeavouring to accomplish that part of the accompanying order, which refers to penetrating to the south.

I am, respectfully, &c.,

R. F. Pinkney,
Lieutenant-Commandant.

To Acting Master George T. Sinclair.
Passed Midshipman William May.
Passed Midshipman George W. Harrison.

(COPY OF REPLY.)

U. S. SCHOONER FLYING-FISH,
Lat. 66° S., long. 148° E., Feb. 5th, 1840.

SIR—Agreeably to your order of this date, we, the undersigned officers, have to express our most thorough conviction, that the condition of this vessel's *crew*, and the vessel, loudly demand an immediate return to milder latitudes.

The causes of this opinion are these: that the crew of this vessel, consisting of fifteen persons (four officers and eleven men), even if well, are entirely inadequate to her safe management; but five are now confined to sick beds (one a servant), one of them is in a very critical state of health, and three others dragging out upon duty, complaining, and under medical treatment. Out of four, nominally performing duty, one of them, the cook, is totally unfit to a turn at the helm, and another cannot be trusted without the closest watching; indeed, so deficient in force are we, that in the gale of yesterday and the day before, and on a previous occasion, when it became extremely necessary to reef the foresail, the men were so deficient in physical strength as to make it impossible to accomplish it.

The crew's apartment is in a most deplorable state, leaking like a sieve, all their beds being wet, their clothes on them being so, even to their under flannels, for *one week*, and without a dry change on hand, and no prospect of having one; so miserable is their situation, that at length you have been compelled to allot them the cabin, in common with us, for the purpose of cooking, eating, and sleeping.

Furthermore, sir, in the gale now abating, we find that nearly constant application to the pump is barely sufficient to keep the water from flooding the cabin floor, evidently having started a leak; notwithstanding this, the condition of the crew is more imperative, much more so in this, our recommendation, for a return to the northward; in fact, we would cheerfully continue to the southward, if we had a proper crew.

Lastly, understanding that the crew, through one of their body, have waited upon you, and, by written application, also stated their inability to live through these hardships much longer, and begging your return.

We are respectfully, your obedient servants,

(Signed) GEORGE T. SINCLAIR,
Acting Master.
WILLIAM MAY,
GEORGE W. HARRISON,
Passed Midshipmen.

Lieutenant-Commandant R. F. PINKNEY,
Commanding U. S. Schooner Flying-Fish.

Lieutenant Pinkney, in accordance with this opinion, and his own conviction of the necessity of an immediate return to milder latitudes, as the only means of restoring the sick, and preserving those on duty, who were then incapable of managing the vessel without the assistance of the officers, deemed it his duty to steer for the north, which he accordingly did.

The 6th and 7th continued thick, with occasional squalls. On the 8th, the weather again broke up, when they had several hours of sunshine, which proved of great benefit to the sick. Lieutenant Pinkney was enabled to come again on deck, who had scarcely been able to quit his berth since leaving Macquarie Island, from sickness. They had reached the longitude of 139° 45′ E., latitude 61° S. At 11. P.M. the aurora was seen ; it was first visible in the south-east quarter, in spots resembling pale moonlight, extending to the zenith, from whence it diverged in rays, some of which reached the horizon, but the greatest number terminated at an altitude of twenty-five or thirty degrees. On the 9th, the aurora was also seen in the west, in vertical rays of pale yellow light, commencing about five degrees above the horizon, and extending to an altitude of thirty degrees. After a short time it disappeared, and was again seen in the zenith, radiating in lines to the north-east and west, reaching to within ten degrees of the horizon. The wind was from the southward. Temperature 34°. The following five days they had thick weather, and nothing occurred until the evening of the 14th, when they again had a display of the aurora ; the coruscations were frequent and brilliant, but did not exhibit any different form, until after midnight, when it appeared in arches, reaching nearly to the horizon, at from 45° to 73° of altitude, and composed of short perpendicular lines, blending at one moment into a sheet of misty light, and then breaking out into brighter lines, some of which were broad. It then again shifted to the zenith, with radiations extending in every direction, in straight and wavy lines. The changes were incessant, but not shooting.

On the morning of the 15th, they again had a display of the aurora. It first appeared in the southern heavens, at an altitude of 45°, flashing to the zenith, where it disappeared. After midnight it was again visible in the southern quarter, at about 30° of altitude. It finally centered in a bright spot, which changed into a crescent, with the rounded side to the northward. From this, feathery edged rays of a pale orange colour branched off in every direction, over which the prismatic colours seemed to flit in rapid succession. The rays would sometimes fold into one another like a fan, and reach the horizon in one direction, while in another they were drawn up to the zenith, again to burst forth in repetitions, until lost in daylight. On the 19th, the aurora again appeared in an arch of 15° altitude.

They passed the last icebergs in latitude 55° 30′ S., longitude 145° 30′ E.

On the 22nd they spoke a French whaler from Hobart Town, who expressed much surprise at finding so small a vessel in such high latitudes. The captain sent a boat on board, and invited them to "soup" with him.

On the 23rd they made the southern island of New Zealand. On the 1st of March they experienced a most violent gale. The wind about noon on the 29th of February hauled to the southward and eastward, and by midnight it blew a gale, hauling to the eastward, until about 8 P.M., when its violence moderated. Their latitude was

40° S., longitude 178° 30′ E. For several days previous to this, a noise was heard about the heel of the main-mast; an examination was had, and the conclusion arrived at that it worked in the step, the wedges in the partners having been driven without obviating it. On the 9th of March they arrived at the Bay of Islands, where they found the gentlemen who had gone there to pursue their researches in natural history waiting our arrival.

The Vincennes was left on the 21st of February on her way north. On the night of 22nd, we had a beautiful and novel appearance of the aurora australis.

Black clouds were passing rapidly over the sky; an orange glow of light seemed to cover the heavens, emanating from a point, over which flitted rays of the prismatic colours, directed towards the horizon, lighting up both edges of the clouds, and throwing them into bold relief. The rays seemed to dart simultaneously towards the horizon, on reaching which they would seem to be gathered, as if by magic, towards the centre, and slowly vanish, to appear again and fold up.

Strong gales from the west-north-west with snow-squalls continued until the 27th, with thick misty weather. Numerous ice-islands were passed during this interval. The last iceberg seen, was in the latitude of 53° S., and longitude 120° 25′ E.; the temperature of the water was 46°.

On the 28th, we found our variation 1° easterly, in the longitude of 131° 50′ E., latitude 50° 30′ S.; and in attempting to get a deep-sea sounding of eight hundred and fifty fathoms, we lost our Six's thermometer by the wire parting. The sea was a deep blue; the temperature 45°. We found a current setting west-north-west three-fourths of a knot per hour. The white object was seen at the depth of fifteen fathoms.

On the 1st of March we had reached the latitude of the Royal Company's Isles, and I continued to run in nearly the same parallel for eight degrees of longitude, without seeing any signs of the supposed land. Having sailed far to the eastward of their supposed position, I again hauled to the northward to proceed to Hobart Town, Van Diemen's Land, to fill up our water. We now saw a sail, the first during sixty days, which made us feel as if we were returning to a habitable part of the globe. This night we had a brilliant display of the aurora australis, resembling that seen on the 9th of February, with this difference, that it was seen to the southward, extending from east-south-east to west-south-west.

On the 5th of March the wind headed us off our course to Hobart Town; I then determined to proceed direct to Sydney, and thus be enabled to communicate as speedily as possible with the United States. The consideration of getting intelligence, respecting the other vessels, also led to this determination. I felt, in truth, forebodings that all was not well, from not having met any of the vessels at the appointed rendezvous, along the icy barrier; and I was anxious for their safety, after the severe gale of the 28th of January.

Having reached a lower latitude, the weather had now become

pleasant, and we could dispense with our winter clothing—a relief which the whole of the crew seemed to enjoy. It was the reverse with me; I had a feeling of exhaustion and lassitude that I could not account for, and the least exertion caused me much fatigue.

On the 9th we reached the latitude of Cape Howe, and were seventy miles to the eastward of it. We there experienced a rise in the temperature of the water: six degrees in less than an hour.

On the 10th, when off Cape Jervis, and about forty miles to the eastward of it, we again changed the temperature from 68° to 73°, as we steered in for the land to the northward, but on hauling to the eastward it again fell to 68°. A strong southerly current has been long known to exist along this coast; and I feel well satisfied that the thermometer is a good guide in making the passage from the southward. The coasting vessels, as I was informed at Sydney, had frequently made long passages from Van Diemen's Land and South Australia, which I have but little doubt is owing to the prevalence of this minor gulf stream, the position of which the use of the thermometer will clearly indicate. This current will be noticed particularly in the chapter on currents; its width no doubt varies with the season.

On the 11th of March, at noon, we passed the Heads of Port Jackson, and took a pilot. We were, as a body, in better condition than when we left Sydney three months before.

In an hour afterwards we dropped our anchor in Farm Cove off Fort Macquarie. Our reception was flattering; scarcely was our anchor well down before many of our friends came on board to bid us welcome; and we felt tenfold that kind hospitality which on our former visit we had first become acquainted with. They appeared to rejoice in our success as if we had been their countrymen.

During our absence from Sydney, many improvements had taken place. The storehouses for the deposit of grain on an island in the harbour were in rapid progress; the new government-house nearly completed, and the foundation of an exchange laid; besides this, many improvements in town that were then in progress had been completed; and the rapidity with which these works had been accomplished, strongly reminded me of similar operations at home.

The country was looking quite green and pretty; indeed, the sail up the noble harbour was truly beautiful; it wore quite a different face from its former parched appearance, the rains having been abundant during our absence.

Observations were obtained for the rates of our chronometers, and the magnetic needles again experimented with.

On overhauling my ship, the fore-topmast was found to be slightly sprung.

It was with great pleasure I learned the safety of the Peacock; for that vessel had occupied my thoughts more than the others, on account of the condition in which she left Sydney. All on board of her were well, and the vessel was undergoing repairs in Mossman's Cove, one of the many which this harbour forms. These coves may be termed wet-docks, affording as they do every facility for the repair of vessels of any size. They are more like artificial than

natural basins, and are secure against any wind. There is no port in the world that offers so many natural advantages as Port Jackson, for a great naval power. We had many things to relate to each other; among others, the particulars of the accident that befel the Peacock, that has already been noticed. The return of that vessel to this port now claims our attention.

On the 28th of January, their sick-list had increased to thirteen, more in consequence of the fatigue the men had undergone than from any disease.

On the 29th, they experienced strong gales from the north-west, which continued to increase until midnight, after which the weather moderated. The ship during this gale was in latitude 61° 20′ S., and longitude 154° 9′ E. This gale is remarkable, in consequence of its blowing in a contrary direction to that which the Vincennes experienced on the same day; while the former had it from the north-west, the latter had it from south-east. Their distance apart was four hundred and fifty miles, in a north-east direction.

On the 1st of February, the weather was stormy until towards evening, when it moderated and cleared off, with the wind to the north-west, and gave them a view of the aurora australis lighting up the southern portion of the horizon. Rays were thrown out in different directions, some reaching an altitude of 30°, others of 40°, whilst others again almost spanned the heavens.

On the 2nd they had another display of the aurora, but contrary to that of the previous day, it was first seen at an altitude of 70°, diverging towards the horizon, from east-south-east to the south-west by west, before it disappeared. The point from which the rays diverged reached the zenith.

On the 4th they made Macquarie Island, and shortly after passing it, experienced another gale from north-west to south-west, which caused them much anxiety for their rudder, which thus far had answered well, although great attention was necessary to prevent strain upon it. Strong gales yet continued. On the 5th, they had a faint display of the aurora.

On the 7th of February, the weather had become less boisterous, and having reached latitude 49° S., longitude 155° 23′ E., the aurora australis again appeared. It was first seen in the north, and gradually spread its coruscations over the whole heavens; the rays and beams of light radiating from nearly all points of the horizon to the zenith, where their distinctive outlines were lost in a bright glow of light, which was encircled by successive flashes, resembling those of heat lightning on a sultry summer night; these formed a luminous arc in the southern sky, about 20° in altitude from the upper part of which rays were continually flashing towards the zenith; light showers of rain finally shut it out from view. On the same night, between one and three, the aurora burst out from the south-western horizon, streaming up and concentrating in the zenith, and attended with quick flashes of every variety of tint. The wind was moderate from the south-west, and a squall of hail passed at the time. In latitude 47° S. they first encountered phosphorescence *in the* water. On the 17th they made the land of New South

Wales, and continued to experience a variety of weather until the 21st, when they arrived off and anchored within, the Heads of Port Jackson.

The next day they proceeded up the harbour, and anchored off Sydney Cove. The ship was much shattered, but her officers and crew all in good health. Here they were kindly received, and no time was lost in proceeding to make the necessary repairs. The collector was kind enough to give them permission to land every thing that might be necessary, when and where they pleased. The powder and fireworks were received into the public magazine, and when called for were politely sent in a government boat, free of expense. The railway for merchant vessels was found too light to trust the Peacock upon it; Mossman's Cove, on the north shore, was then resorted to, not only as a convenient place for making the necessary repairs, but as affording more security for the crew against the crimps and rum shops.

The day after my arrival, I visited the Peacock, in order to examine into her condition, and could not withhold my astonishment that she had been able, after undergoing such damage, to reach a distant port. The visible injuries have already been stated, in speaking of her accident. On their arrival at Sydney, it was found that her stem had been chafed to within one and a half inches of her wood ends, and much strained throughout. After a full examination of the circumstances, I feel it a duty I owe to Captain Hudson, as well as to his officers and crew, to state that I am well satisfied, that his coolness, decision, and seamanship, with the good conduct of his officers and men in the perilous situation in which they were placed, are worthy of the highest encomiums. The preservation of the ship and crew, and her subsequent navigation to a distant port, reflect the highest credit upon her commander and upon the service to which he belongs.

Sydney was now much crowded with people, and several balls were given, to which we had the honour of an invitation. That of the St. Patrick Society was attended by the chief people in the neighbourhood of Sydney, including the governor and most of the officers of the crown. It was given in the new court-house, and was a handsome and well-conducted entertainment.

I was struck with the beauty and general appearance of the ladies, though I was informed that many of the belles were absent. The style of the party was neither English nor American, but something between the two. I scarcely need remark that we were all much gratified and pleased. The hospitality and kindness shown us were of that kind that made us feel truly welcome.

Our last week at Sydney was spent in a round of pleasure, and the attention we met with being entirely unexpected, was doubly gratifying to us.

CHAPTER XX.

NEW ZEALAND.

Departure from Sydney—Passage to New Zealand—Arrival at the Bay of Islands—Bay of Islands—Rivers which fall into it—Face of the Country—Hot Spring of Taiaimi—Missionary Establishment at Pahia—Kororarika—English Police Magistrate and Acting Governor—Treaty of Cession to England—Conduct of the American Consul—Installation of the Lieutenant-Governor—Opinion of the Chiefs in relation to the Treaty—Foreign Residents—High Price of Land—Taboo—Pas, or Fortified Towns—Dwellings—Tomb—Dress of the Natives—Their Food—Their Arms and Ornaments—King Pomare—Mauparawa—Charley Pomare—Pomare's Wars—Ceremony of his Return—His Meanness—Population of New Zealand—Visit to Wangarara—Politeness of Ko-Towatown—Wangarara Bay—Character of the New Zealanders—Their Personal Appearance—Tradition in relation to their Origin—Tattooed Heads—Cannibalism—Condition and prospects of the Natives—Native Dances—Music—Chatham Island—Climate of New Zealand—Diseases—Soil—Cultivation—Vegetable Productions—Timber—Canoes—Quadrupeds—Birds—Commerce.

HAVING replenished our stores of provisions, we took, with much regret, a final leave of our friends at Sydney. The Vincennes weighed anchor, and at 3 P.M. on the 19th March we discharged our pilot, and bade adieu to these hospitable shores. The Peacock, not having completed her repairs, was left at Sydney for a few days, with orders to follow us to Tongataboo.

At daylight on the 30th, we made Cape Brett, and after groping our way through the dark, into the Bay of Islands, anchored at 10 P.M. in the Kawa-Kawa river, opposite the residence of Mr. Clendon, the American consul. Here I had the satisfaction to find the Porpoise and Flying-Fish, and received the reports of their cruises; they were all well on board. The former vessel had arrived a few days, and the latter about three weeks before us. We were also gratified with the receipt of letters from the United States. Here also we were joined by all the scientific gentlemen.

From the splendid panorama of Mr. Burford, I had pictured the Bay of Islands to myself as a place of surpassing beauty, and I could not but feel gratified at the idea of paying it a visit: it did not, however, realise my expectations. It might, with more propriety, be called the Bay of Inlets. The best idea that can be given of its geographical features is, to liken it to an open hand with the fingers spread apart. The land is much indented with bays, or arms of the sea, running up among hills, which are nearly insulated. The distance between the two capes (Brett and Point Pocock) is ten miles, and there are several secondary bays facing

this opening. Four rivers flow into them, the Kawa-Kawa, Kiri-Kiri, Loytangi, and Waicaddie, into which the tide flows a few miles, after which they become small streamlets, varied by some waterfalls. There are many minor indentations, which render it impossible to move any distance without a boat; and it is often necessary to make a turn of five or six miles around an inlet or marsh in going to a place, which might be reached in one-tenth of the distance by water.

The land has the appearance of barren hills without accompanying valleys, and there is so little level ground that terraces are cut in the hills to build the cottages on. The whole view is anything but picturesque, and there is little to meet the eye except bare hills and extensive sheets of water. Some fine views are, however, to be met with from the elevated ridges, which afford occasional glimpses of the bay, with its islets.

Many of our gentlemen were struck with the resemblance of this land to that of Terra del Fuego. Black islets and rocks, worn into various shapes, are found, as in that country, at all the points in the bay through which a boat can pass. These rocks are of a basaltic character. About the Bay of Islands the rock is compact and argillaceous, showing little or no stratification, and is for the most part covered with a layer of stiff clay, two or three feet thick, the result of its decomposition. The hills about the Bay of Islands are generally from three to five hundred feet high, but some of those at the head of the bay reach one thousand feet. The district about the bay and the northern portion of the island may be styled volcanic; for, in addition to rocks of undoubted volcanic origin, all the others had in a greater or less degree undergone the action of fire.

The embedded minerals in the rock about the bay are quartz, iron, and iron pyrites.

The hot spring of Taiaimi was visited, but it is described as rather an emission of gas than of water. It is situated in a small basin, and forms a lake of three or four acres in extent; near the edge of this lake gas is constantly bubbling up, usually through the water, to which it gives the appearance of boiling; and gas issues also from the surrounding land for an extent of several acres. The water was found to be warm, but did not scald. The neighbouring ground was destitute of vegetation, and appeared as if the surface of the earth had been artificially removed. Sulphur was abundant, and there was also a slight incrustation of alum. The water was strongly impregnated with iron, was much discoloured, and in smell and taste not unlike pyroligneous acid. The natives attribute medical virtues to these waters.

Pahia is the principal missionary establishment of the Episcopal Church. It is pleasantly situated on the bay, opposite Kororarika, and is the residence of all those attached to the mission, and their printing-presses are there. It is too much exposed to afford a good harbour for shipping, but as it is the most favourable site for communication with the interior, the advantages and disadvantages of its position are nearly balanced.

Kororarika is still the principal settlement, and contains about

twenty houses, scarcely deserving the name, and many shanties, besides tents. It is chiefly inhabited by the lowest order of vagabonds, mostly runaway sailors and convicts, and is appropriately named "Blackguard Beach."

The appointment of the police magistrates was one of the first acts under the new order of things. Mr. Robert Shortland, the first police magistrate, after the illness of Governor Hobson, styled himself acting governor, and a more ridiculously pompous functionary could scarcely be imagined. He paid a visit to the vessel in which some of our gentlemen had made the passage from Sydney, and demanded the reason why the mail-bag had not been sent to the new government postmaster. The master of the vessel replied, that he thought it his duty, not having been informed of any change, to deliver them to the old postmaster, until he should be directed otherwise by Governor Hobson. This pompous functionary, in an improper tone as well as manner, exclaimed, "I wish you to know that I am governor now." In the words of one of the gentlemen, "had he been the viceroy of the Indies, he could not have made his inquisitions in tones of loftier supremacy."

Some of our gentlemen arrived at the Bay of Islands in time to witness the ceremonies of making the treaty with the New Zealand chiefs. I mentioned, whilst at Sydney, the arrival of H. B. M. frigate the Druid, with Captain Hobson on board, as consul to New Zealand. It was well understood that he had the appointment of lieutenant-governor in his pocket, in the event of certain arrangements being made. His arrival at the Bay of Islands, in H. B. M. ship Herald, seemed to take the inhabitants, foreigners as well as natives, by surprise. A few days afterwards, on the 5th February, a meeting was called at the dwelling of Mr. Busby. The meeting was large, and numerously attended by the chiefs. Many arguments and endeavours were used to induce them to sign a treaty with Great Britain, all of which were but little understood, even by those who were present, and had some clue to the object in view. Great excitement prevailed, and after five hours' ineffectual persuasion, the meeting broke up, every chief refusing to sign or favour Captain Hobson's proposition, which was in reality nothing more or less than a cession of their lands, authority, and persons, to Queen Victoria. Among the arguments made use of, he stated that unless they signed the treaty he could do nothing more than act as consul. Nothing having been effected, the meeting was broken up, and the following Friday appointed for a second. Tobacco and pipes were given them before they departed, which restored their good humour, and they went away shouting.

In the mean time Mr. J. R. Clendon, an Englishman acting as American consul, the missionaries, and many interested persons residing there, or about becoming settlers, were made to understand that their interests would be much promoted if they should forward the views of the British government. Every exertion was now made by these parties to remove the scruples of the chiefs, and thus to form a party strong enough to overreach the rest of the natives, and overcome their objections. About forty chiefs, principally minor

ones—a very small representation of the proprietors of the soil—were induced to sign the treaty. The influence of Mr. Clendon, arising from his position as the representative of the United States, was among the most efficient means by which the assent, even of this small party, was obtained. The natives placed much confidence in him, believing him to be disinterested. He became a witness to the document, and informed me, when speaking of the transaction, that it was entirely through his influence that the treaty was signed.

The lieutenant-governor installed himself, confirmed the appointments of a host of government officers, and the whole machinery, that had been long prepared, was put in motion. Proclamations were issued by him, extending his authority over all the English residents on both islands! and it was considered by the Englishmen as good as law, though far otherwise by the other foreigners. After this, the lieutenant-governor proceeded to the district of the Thames River, or Hauaki, in the Herald, for the purpose of procuring a similar cession of the country; but before this could be consummated, he was attacked with paralysis, and the Herald was obliged to depart for Sydney.

So far as the chiefs understand the agreement, they think they have not alienated any of their rights to the soil, but consider it only as a personal grant, not transferable. In the interview I had with Pomare, I was desirous of knowing the impression it had made upon him. I found he did not conceive that he had given up his authority, or any portion of his land permanently; the latter he said he could not do, as it belonged to all his tribe. Whenever this subject was brought up, after answering questions, he invariably spoke of the figure he would make in the scarlet uniform and epaulettes that Queen Victoria was to send him, and "then what a handsome man he would be!"

Although the land about the Bay of Islands is much cut up by indentations, yet from this circumstance it affords many pretty views, which have, in some respects, an appearance of an advance towards civilisation, that one hardly expects to find within the scope of the residences of these savages.

The prospects of these islanders are, in my opinion, anything but pleasing, and the change by no means calculated to insure their happiness, or promote their welfare. It seems to have been brought about by a rage for speculation, and a desire to take possession of this country, in order to secure it from the French. The idea that it was necessary to extend the laws of New South Wales over the island, in order to protect the natives, and break up the nest of rogues that had taken refuge there, is far from being true. No such necessity existed, for there was no difficulty in having any one apprehended by sending officers for the purpose, or offering a reward.

The New Zealand Land Company have been the secret spring of this transaction, and under the shelter of certain influential names, the managers have contrived to blind the English public. It will scarcely be believed that the New Zealand Land Company had disposed of several thousand shares of land before they purchased

an acre. Some three or four thousand emigrants, who had purchased allotments, left England on their way to take possession of them, just after the agent. Upon their arrival they could obtain no satisfactory information respecting their allotments, and were left in a destitute condition, to spend the few earnings they had left, and to endure all the privations to which people landed in a new country are subject.

Even of those allotments that have been given out, many are not susceptible of cultivation. It is scarcely to be believed that the high names which stand at the head of this company could have been informed of the true state of things; yet it is generally supposed in this part of the world, that it is by their exertions and influence that the British government has been induced to take forcible possession of the territory of an independent state, which New Zealand undoubtedly was. However this may be, the speculators have succeeded in their object, and the country will now be retained by England, even if a military power should be necessary. Should the New Zealanders resist—and they are a warlike race, yet acting against European discipline—they will be readily overcome. They are not unlike grown children, and may be more easily ruled by kindness, and by satisfying the wants of the chiefs, than by force. The population will soon disappear before the whites, for the causes that have operated elsewhere are to be seen in action here, where the savage is already sinking imperceptibly before the advances of civilisation. While philanthropy, real or pretended, is ransacking the globe to find subjects for its benevolence, it seems a little surprising that scarcely a voice has been raised in Parliament against this act of usurpation.

Foreign residents have established themselves in many places, and on all the inlets or arms of the Bay of Islands their cottages are to be seen, occupying the points and coves.

On the north, the British resident, Mr. Busby, has built a large and commodious cottage, and commenced laying out his grounds in town lots for the future city of Victoria, of which there was a public sale previous to our arrival. All the lots were, I believe, purchased on speculation, for after seeing the locality, one must be convinced that it offers no advantages for more than a village, if, indeed, for that. More to the westward is situated Pahia, the mission establishment. For commercial purposes, the south, or Kororarika shore, offers the greatest advantages, having the deepest water, and being the most sheltered from the stormy winds.

The extent to which speculation has raised the prices of land in this neighbourhood is almost incredible. Mayew's Point, the first above Kororarika Bay, has on it a few storehouses, which are rented for six hundred pounds a year.

Mr. Clendon, the American consul, for about three hundred and twenty-five acres, of which only fifty are level, has received thirty thousand pounds from the British government, reserving to himself the remainder, one hundred acres. He bought the whole for a trifle a few years ago.

The introduction of a Sydney police at Kororarika has been of

service to that place, for they have dealt in a summary manner with the vagabonds who formerly frequented it.

Among the natives the taboo is yet law, though endeavours are making to introduce other laws among them. It was told me, on good authority, that there had been a trial for murder by a jury of chiefs at or near Hokianga, under the direction of a white man, but there was great reason to believe that the person did not receive that impartial justice which a duly organised court would have assured him. The evidence was said to have been deficient, but the current belief being against him, he was notwithstanding shot.

The natives, we were told, were not a little surprised at the summary way in which justice, or rather punishment, is dealt out by the magistrates of Kororarika.

Their taboo laws are very strict, and carefully observed, even among those who are considered Christians. The chief, Tomati, refused to enter the house of a person whom he took Mr. Hale to visit; for if he had entered, it would have become tabooed; and the native law, which does not permit any man to enter a house in which a chief has resided, even temporarily, would have compelled him to abandon his dwelling. Women alone are allowed to enter the houses of chiefs. An instance of this was witnessed at the pa of Pomare, and another where we attempted to purchase the prow of a canoe. This prow, which was elaborately carved to represent some nondescript animal, with a human head, having the tongue protruded, was accidentally seen in an out-of-the-way storehouse, and was somewhat mutilated; it had belonged to the late chief Kiwikiwi, and was tabooed in the first degree. Overtures were made to the widow of Kiwikiwi for its purchase. It was evidently considered very sacred, for none of the natives would touch it, or even enter the storehouse in which it was kept. Notwithstanding all its sacredness, it was sold, after a little chaffering, for six dollars. The first price asked was two pounds, but the widow could not resist the chance of its sale. After the bargain was concluded, no native could be found willing to incur the penalty of the taboo, by carrying it. When the transportation was accomplished, a new and unexpected difficulty arose; it could not be carried across the water in a canoe, as it was against taboo to do it. The threat of making them refund the money, and take back the *ihu* or nose, so worked upon the covetousness of old Kawiti, the chief, that he consented to remove it, and also promised to come the next day and paint it red, after the native fashion. This he punctually performed, using a kind of red earth, mixed with water.

The taboo is always resorted to, to protect their kumara-patches, and the fear of breaking it was strongly shown by the intrusion of Mr. Tibbey's goats into the kumara-patch of Pomare, near his pa. No one could be induced to go in to drive them out, for fear of punishment; and a message was sent to the chief to allow them to be expelled. After the permission was given, the natives could not be induced to enter by any other place but that where the goats had broken through.

The natives, for the most part, have their permanent residence in

towns, or what are here termed "pas," which are generally built on high promontories, or insulated hills, and fortified in a rude fashion, with a palisade of upright stakes, about ten feet high; the houses or huts are all built closely together.

Pomare's pa being near our anchorage, was frequently visited. It contained about three hundred huts. There was a main entrance through the palisade, near which are two posts, the tops of which are carved into distorted representations of the human figure.

Within the main enclosure are other enclosures, each containing five or six houses, with alleys of two feet wide, that traverse the town. Their houses are very simply constructed; four corner-posts are driven into the ground, and left from two to five feet above the surface; in the centre line two or three strong posts are firmly set in the ground, to support the ridge-pole of the roof: on the posts is placed and lashed a horizontal beam for the rafters to rest upon, and smaller poles are lashed to the posts, at one foot apart, from the ground up; on thefe the roofing is worked: the material used in thatching is the rush (Typha latifolia), or our common cat-tail. The manner of making the roof is to tie the materials on the horizontal strips or poles, setting the larger ends on the ground, and driving them close against each other, generally with the fist, and so on until all is closed in, leaving doorways under the eaves, at the gable ends; the *rappooing* is then cut square off at the upper horizontal beam or plate-piece, and the roof is put on, made of the same material, and generally thatched with it or fern. The roofs have usually but little pitch, which gives a squat look to the houses. Mats are generally hung up at the doorways, but some have doors made of pine; they are low, obliging one to stoop or creep, in entering. Around their houses they have usually peach trees growing, but nothing else is cultivated about them.

The furniture consists of mats, a few baskets and trinkets, an old chest to lock them up in, an iron pot, and a double-barrelled gun, generally of the best maker.

Pomare's house was about twenty feet long by twelve broad; from five to eight feet high. The mode of construction was the same as above described, with the exception that the rafters were flat and ornamented with arabesque work, drawn with soot or black pigment. The posts were likewise carved; but from the dirt and filth with which they were covered, it was difficult, if not impossible, to decipher them. It is said that the New Zealanders have improved in the art of building since they were first visited, but they are still in this respect far behind any of the islanders we have visited.

Four of our gentlemen, before my arrival, had paid Pomare a visit, and made him some presents, which, so far from satisfying his cupidity, only made him more covetous. On receiving a watch-chain, he asked for the watch; and could not be induced to exhibit a dance, unless each person presented him with a shilling. This exaction was submitted to, though they were disgusted and disappointed with the greediness he manifested. The dance proved very similar to those seen among the Samoans and Tahitians, with the

same tossing of the arms and legs, and various contortions of the body, performed by a number of men and women. The only music was that of the voice, two or three singing in a high monotonous key. The dance was, however, seen to disadvantage by candle-light.

On the top of the hill is a sacred enclosure, or Kianga-tabo, in which are erected the tombs of the chiefs. A few days before our visit one was interred here.

This tomb is formed of a small canoe, cut across through the middle, and the two parts joined face to face, forming a hollow cone, about seven or eight feet long. The corpse is placed inside, in a sitting posture, and would remain there a year, after which the bones would be carried up the river, and, as Charley Pomare expressed it, would be "thrown away anywhere."

The tomb is painted red, and ornamented with feathers on each side, from the ground to the top; it is covered with a small shed, to protect it from the weather, and enclosed all around with a fence. The funeral ceremonies were not witnessed, but, from the description of the natives, were very noisy, and accompanied with firing of many guns—a general practice on all public occasions. Their faces and arms bore evident marks of their having been engaged in the ceremony, being covered with scratches which they had inflicted on themselves.

The pas of the natives are not in reality strong places, but are little more than insulated and commanding situations. Pomare makes some show of warlike instruments, in the formidable array of three ten-pounders, all of them in bad condition, though looked at and spoken of by the natives with no small pride and conceit. The natives, in time of peace, do not live constantly in these pas, but are mostly occupied at their plantation-grounds; for which reason only a few men were seen lounging about in front of their houses. The women were generally engaged in making and plaiting mats, or cooking, and the men seemed the greater idlers.

Their native dress consists of mats of various kinds, made of the native flax (Phomax), which are braided by hand, and are, some of them, finer than carpeting, while others are as coarse as our corn-leaf mats. The latter were worn by the women while at work, tied around the hips, and sometimes over the shoulders. They carry their children on the back, like our Indians.

The men were more luxurious in their dress, having fine mats, nearly as large in size as our blankets, ingeniously and beautifully wrought, and sometimes embroidered. Both of these kinds are still worn, though they are gradually disappearing, and the dress is becoming more European, or rather Tahitian. The women now often wear loose slips of calico, drawn about the neck, which are anything but becoming, while the men have coarse clothing, sometimes a dirty white blanket, at others, different parts of European dress. The blanket is worn in the same manner as the native kakahu. They never think it necessary to use clothing for a covering; it is worn more from pride and ostentation than anything else; and not unfrequently a native may be seen decked out in a coat and vest, without any covering on his nether limbs, and occasionally with a

pea-jacket and no shirt. That which gives a foreigner a peculiar disgust to the persons of the New Zealanders, is their filth, which also pervades their houses. They seldom, if ever, bathe themselves, or wash their clothes, which are usually worn till they drop off from age. They occasionally anoint their skins with fish-oil, and of course cannot be expected to keep themselves clean.

Their houses are small, low, begrimed with soot, besmeared with grease, and are filled with filth. As yet, their furniture has received no addition from their intercourse with the whites, except the huge sea-chest and iron pot; the former to deposit their valuables in, and the latter for cooking. It was remarked by us all, how few of the grotesque figures, so much spoken of by voyagers, were to be seen. There appeared to be little carving recently done, in comparison with former times. They are said to have improved in the construction of their houses; but there is still great room for improvement, before they can vie with any of the other islanders we have visited. Their food consists principally of the potato, fish, kumara, or sweet potato, Indian corn, and fern-root, which is found throughout the country. The kumara is much smaller and inferior in quality to those grown in the other Polynesian isles. Here it is a small watery root, and is generally disliked by foreigners. It is preserved in houses constructed for the purpose, to prevent the depredations of the rats. These are built on four posts, which are scraped exceedingly smooth, and are only entered by a single slanting post. The roots are also suspended beneath these houses in large baskets.

Fish are taken with hooks and nets, and are dried and laid by for use. They also eat a clam which they call *pipi*. Hogs and poultry are raised in abundance, for their own use and the supply of ships. They have, as I before stated, peaches, as well as many small berries, and in a few years they will have all the fruits of the temperate zone introduced by settlers. They formerly ate their fish raw, or cooked with the kumara, after the Polynesian fashion, in the ground, with hot stones; but now they use an iron pot, in which all their food is boiled together. They have a great fondness for rice with sugar or molasses. They do not want for food, for their country is well supplied with wild roots, which in case of necessity or scarcity can be resorted to. They also make a pleasant beverage, resembling spruce-beer, which they call *wai-maori*.

The greatest changes which have taken place in their customs are the introduction of the use of fire-arms, and the adoption of whale-boats instead of their canoes. The latter are without an outrigger, and differ in this respect from the boats of all the other Polynesians south of the equator. They have also adopted the square sail (which generally consists of a blanket) in place of the triangular one common to all Polynesia.

The ornaments of the New Zealanders are few; those of the men, who are chiefs, generally consist in an elaborate tattooing, that gives a striking appearance to the face; the regularity with which it is done is wonderful. They all have their ears bored, and have small rings in them, made of jade or shark's teeth, tipped with sealing-

wax, or small bright-coloured feathers. Around the necks of the chiefs and their wives is hung their "heitiki," made of a stone of a green colour, which is held very sacred, and which, with their "meara"—a short cleaver or club—is handed down from father to son. The heitiki has some resemblance to a human figure, sitting with crossed legs. This stone is procured from the southern island, near the borders of a small lake, which receives its name from the stone, being called Tewai Pounamu, or the Green-stone Water. From the name of this stone, Cook, by mistake, gave the name of Tavy Poenammoo to the southern island. It is also supposed that Captain D'Urville's name of Ika-na-maw (meaning the fish out of Mawi), given by him to the northern islands, may also be the name of some place on the northern side of Cook's Straits. Those who are acquainted with the natives and their language say, that they have no native name for either of the islands, or any part of the country, and have adopted into their language the names given by the whites, with modifications to suit their tongue.

It was a long time before Pomare would consent to his wife parting with the heitiki which she wore, and that belonging to himself (his atua) he would not allow us to take off his neck, even to look at. Our consul interpreted for me a singular story that the southern natives had invented relative to these stones: "That they were found in a large fish, somewhat resembling a shark, which they were obliged to capture and kill for the purpose of obtaining them. When first taken from the stomach of the fish, the stone is soft, but from exposure becomes hard, and must be wrought in its soft state." This story was related by Pomare. The smaller stones were about three inches in length, and the larger ones about five inches.

Pomare is a fine-looking man, and is handsomely tattooed. He is six feet in height, and well formed, with the exception of his feet and legs. His dress was anything but becoming; a blanket was tied about his neck, and hung ungracefully about his person, leaving his right arm free; beneath this he wore a shirt and loose pair of drawers, descending to his knees; the rest of his person and his feet were bare. In his hand he usually carries a short cloak of dog-skin, called *topuni*, *shupuni*, or *patutu*. These short cloaks, are, in shape, not unlike those of the knights in ancient times; they are about three feet long, being formed of common cloth, mat, or sewed dog-skin, dressed with the hair on. Pomare's dress was surmounted by a blue naval cap, with a gold-lace band. The tattooing may give his features somewhat of a fierce aspect, and serve to disguise the expression, yet I cannot but believe that his true feelings are developed in it. His face indicates anything but a kingly character. Perhaps his reputation for business may have something to do with the impression his physiognomy produced. He told me he had two wives, but it is generally believed that thirty would be nearer the truth. The favourite one usually accompanies him; she is highly spoken of for good sense, and Pomare is said to place much confidence in her judgment. She was the best-looking native I saw in New Zealand, but would not be called handsome elsewhere. The

missionaries have not yet been able to produce any effect upon Pomare or the family connected with him. Pomare's chief warrior is Mauparawa, who has been persuaded to remain with him, although a native of Hauaki, on the river Thames.

Mauparawa is a much finer-looking man than Pomare—in appearance a very Hercules; but the effects of dissipation are beginning to be perceived in his powerful frame. He has long been a favourite with the whites, who admire him for his prowess. Many of his followers came with him to join Pomare, of whom few are now left; for in an expedition last year he lost almost all of them: having landed on Aoteu or Barrier Island, he was overpowered and badly wounded, barely escaping with life. One of his acts of daring took place in the last feuds with the Kororarikans, by whom he was much detested. Wishing to put a disgrace upon them and show his contempt, he one night took his canoe, and with six of his followers left Pomare's pa or stronghold for Kororarika, the heart of his enemies' strengh. He landed there in the midst of his foes, whom he found fast asleep. Drawing up his canoe on the beach, he went to the house of a white man, whom he awoke, and ordered him to give himself and followers some spirits, threatening him, in case of refusal, with instant death. They took their spirits quietly, desiring the man to say to the Kororarikans in the morning that Mauparawa had been there in the night, with some insulting message; but before leaving, it occurred to him that the man would not have the courage to tell of his visit: he therefore determined to leave his own canoe (which was very well known), and take a whaleboat in its stead. All of which was done merely to throw a slur upon his enemies, at the risk of his own life.

Another person of some note is a cousin of Pomare, called Charley Pomare, the son of the former ruling chief of that name. Hoia, the brother of the king, appears to be a stupid fellow. Charley Pomare was very talkative and intelligent, and although young, appears well informed in the history of the island. In his accounts, he dwells particularly on the extensive ravages committed by Shougi, who, I believe, was taken or went to Europe. After his return, finding he had lost influence in his tribe, in order to regain it, he committed some of the most barbarous cruelties that have ever disgraced these islands, and made his name terrible among the tribes. Most of these, before his wars, had from three hundred to one thousand warriors, but only a few now remain in some of those who were formerly powerful and independent, and who being from their weakness unable to contend by themselves, have become incorporated with other tribes. The reason that the natives give for this diminution is, that Shougi had killed them all. His conquests embraced nearly all the northern part of the north island, whose warriors he then united, and led against the people of the south, about Hauaki, on the river Thames. With these he waged a long and bloody war, and extended the name of Ngapuhi, which properly belongs to the people about the Bay of Islands, as far south as *Kiapara*. His death, which happened a few years since, was a great *relief both* to his followers and foes.

The last war took place in 1837, about two years before our arrival. It was, in all probability, the last native contest that will be waged. It was caused by the disappearance of a woman of Otuiha, whom the tribe of Kororarika were suspected and accused of having killed and eaten. Formidable preparations were made, and the allies on both sides called in; the people of Kororarika being aided by the forces from Hokianga. The principal battle was fought in a piece of marshy ground between Waikereparu and Otuiha. Here Pomare, better known by the name of Charley, then quite a boy, led the forces of Otuiha, while those of Kororarika were marshalled by Pi, a great chief of Hokianga; and the fight was terminated by Charley first shooting Pi, and then the second chief, who was endeavouring to save the body, with his double-barrelled gun. The heads of the warriors were cut off, and preserved as trophies, while their bodies were left on the ground. They were not eaten, though the Hokianga people are said to be cannibals. This latter imputation, however, should be received with caution, as the information was derived from their enemies.

From all I could learn, Pomare is not deemed very courageous, and was not himself engaged in the fight. He is looked upon as quite avaricious, and as a great coward: he is much addicted to liquor. It will, perhaps, excite surprise to learn how he came to exercise the influence he does over his countrymen; it is entirely owing to his eloquence, by which he is enabled to lead them anywhere. When Charley was asked the cause of his uncle's influence, he said that Pomare could lead the people wherever he chose; and to the question as to why he himself was not king, he answered, "Oh, that is maori," (country fashion).

Some of the gentlemen visited the pa of Pomare, for the purpose of witnessing his return from a visit to one of his allies. The canoe was seen coming up the bay, paddled by forty-five natives, and on the side of the hill all the people of the pa were collected, shouting, waving their garments, and firing muskets, to welcome their friends. When the chief touched the shore, a curious scene ensued. All the boatmen seized their paddles and ran some distance along the beach, where they halted, and formed themselves into a compact body, in martial array. Those of the pa did the same, and were stationed in front of the canoe; the former party then returned, and when near, the latter made simultaneously ten or twelve leaps directly upward, waving their paddles over their heads, and giving at each jump a hard guttural sound, like *hooh*. The two parties then changed positions, when the boatmen went through the same motions, after which the whole mingled together. This ceremony was supposed to represent that used on the return of a war-party. Pomare was found shortly afterwards seated in front of his house, surrounded by his people, who were busily engaged in preparing a great feast, for which he was giving directions, and which shortly took place, accompanied by much merry-making.

The chief, Pomare, on one occasion paid a visit to the gentlemen of the squadron at Mr. Tibbey's, with some fish for sale, and for which he had been fishing several hours. He first asked a shilling

for them, which was handed to him, when he immediately raised his price to two shillings, and when this was refused, he went away in high dudgeon, and complained to me on my arrival, that he had not been treated well. Many instances of the same kind occurred.

Mr. Hale induced Hoia, Pomare's brother, to give him a list of the various clans of the great Yopaki tribe, which under Shougi, had formerly been the terror of all New Zealand. From this and other authorities, the number of the tribes were given at one hundred and five, in which were comprised upwards of sixty thousand fighting men. Those who are more acquainted, and have the best opportunities of knowing, state the population at less than three hundred thousand; there are others who rate the population from thirty to forty thousand. A mean between the two estimates would be nearer the truth. From the information I received, I am satisfied that it cannot be great. The population of both islands is said to amount to from one hundred and forty to one hundred and eighty thousand, and the whole of this number are on the north island, with the exception of three or four thousand who are on the southern island. It is remarkable that every tribe has a name peculiar to itself, and distinct from the district which it inhabits: thus the natives of Kororarika are called Yaitawake; those of Hauaki (the river Thames), Ngaitawake; and, with few exceptions, these names begin with the syllable of Nga or Ngati—most commonly the latter. These names are thought to have reference to clanship. The members of each tribe appear to be all connected by the ties of consanguinity.

Some of our naturalists made a visit to a town called Wangarara, situated near the coast, about thirty miles to the southward of Cape Brett. They passed up the Waicaddie river, eleven miles to Waicaddie Pa. Here they found a missionary station occupied by a Mr. Baker; but none of the family were at home. The old chief of Waicaddie was very indignant, and treated them quite uncivilly, because they were going to Wangarara. After procuring a guide, they set out on foot for that place. The distance is twelve miles, which they accomplished by sunset. The road lay over mountains. The village of Wangarara consists of four or five miserable huts, or what would more properly be designated kennels, made in the rudest manner, and thatched with fern-leaves. In order to enter these, they were obliged to crawl on their hands and knees. The furniture of the chief's house consisted of a few mats, two or three fishing-nets, and an old chest. A fire was smoking in the centre to keep out the musquitoes, and the resemblance to a smoke-house was striking; or, perhaps, the latter would have suffered by the comparison. The accommodations in this hut were rather confined and crowded; for besides themselves, there were three runaway sailors as guests. They, therefore, gladly accepted the invitation of the chief Ko-towatowa, who was on a visit here, to accompany him to his hut, at the mouth of the bay. They went with him in his fine large canoe, and reached his residence late in the evening, where *they found* themselves much more comfortably accommodated, *having* clean mats and a good supper of pigeons and potatoes. This

was Ko-towatowa's principal farm. His pa is situated a few miles up the bay, on a rocky point, and contains one hundred and fifty houses. It was, at the time of their visit, nearly deserted, in consequence of the attention demanded by their crops; and this is the case with nearly all the other pas at this season.

This part of the country is flat, and has a good soil; and here Ko-towatowa raises most of his potatoes and kumaras, which are larger and better than those raised at the Bay of Islands. They also raise a good supply of Indian corn, and are at no loss for food, which was evident from the quantities of dried as well as fresh fish which were seen.

A great difference was perceived between the natives of this place and those of the Bay of Islands. The former have had little or no communication with foreigners, their manners are more simple, and they have little or no idea of the conventional value of money. The people of this place appeared more virtuous and happy, and a number of young women were seen, good-looking, sprightly, and full of animation.

NEW ZEALAND GIRL.

They here saw the old chief of Wangarara, grand-uncle to Ko-towatowa. He was very feeble, with white hair, and clad in an old dog-skin robe. He was observed to sit all day on a small mound of dirt and pipi shells; having lately lost a relation, he, according to custom, is tabooed for the season. He does not help himself, and is not allowed to touch anything with his hands; his grand-daughter, a sprightly girl, waits upon him; and it was pleasing to witness the watchfulness she evinced in attending to his wants, often filling and lighting his pipe, and holding it in his mouth while he smoked. Notwithstanding the promising appearance of Ko-towatowa's house and premises, it was found swarming with fleas and other vermin. Ko-towatowa is a member of the Episcopal Church, and daily performed worship in his native tongue. After their morning meal, they began their rambles, but had not proceeded far before they were met by a large party of natives, who kept saying to them, "*Walk about one hilling*," by which they soon understood that they were required to pay one shilling for the privilege of walking on the beach and picking up shells; on Ko-towatowa's being appealed to, he soon dispersed them. On a hill, near to this place, Mr. Drayton found a beautiful specimen of Bulimus Shougii.

Wangarara Bay is a deep indentation in the coast, to which it runs parallel, and is separated from the ocean by a narrow belt of high and rocky land. It is said to have good anchorage for a distance of six miles from its mouth. The entrance is very deep.

free from danger, and about one mile wide; it is a much safer port than the Bay of Islands. A vessel might pass by its entrance without suspecting that a harbour existed. Provisions of all kinds are much cheaper and better than at the Bay; and although the natives are aware of this difference, yet not being able to transport their provisions there, they are content to dispose of them at a less price.

Their kind friend Ko-towatowa took them back to Wangarara, stopping on the way at his pa, where he presented them with quantities of peaches, which had been tabooed to his people. At Wangarara they again found their guide, and the two old chiefs—the elder of whom was called Kawau, and the other, a little younger, Rauhenna: both of them have the character of being great rascals. The contrast between them and Ko-towatowa was very much to their disparagement. With some reluctance they ordered a pot of potatoes to be boiled; but when night came, they positively refused entrance into their huts unless each gave a shilling, to which Ko-towatowa sternly objected, saying that they were his guests, and should not pay. A quarrel between the chiefs ensued, and the only way it was prevented from going to extremity, was to slip the money quietly into old Kawau's hand; after which peace was restored, and they retired for the night, where they were effectually tormented by the fleas and vermin. Ko-towatowa, on taking leave of them, refused any compensation for his services; but a pressing invitation to pay them a visit at the Bay was accepted.

They returned by the same route, and by noon reached Waicaddie Pa. It contains about two hundred houses, and is situated between two small fresh-water streams. This is the most cleanly and extensive town in the neighbourhood of the Bay of Islands. Mr. Baker, of the Episcopal mission, has settled here; he has many acres of land, and comfortable dwellings, farms extensively, and has about twenty head of cattle, with good pasture for them. The natives also possess some cattle. By night they reached their lodgings.

One who has long known the New Zealanders, and on whose judgment reliance may be placed, gives them credit for intelligence and generosity, and says that they are hospitable and confiding to strangers, persevering where the object concerns themselves, strongly attached to their children, and extremely jealous of their connubial rights. A violation of the latter is punished with death, not only to the parties themselves, but sometimes extended to the near relatives of the offenders. They are crafty, but not overreaching in their dealings, covetous for the possession of novelties, although trustworthy when anything is placed under their immediate charge, but not otherwise over-honest.

A transient visitor would hardly give them so high a character, and would, I think, have an unfavourable opinion of the race. He might, however, award to them intelligence; but they appear vindictive, and, from a number of facts, must be treacherous. One cannot be long among them, without discovering that they are *adepts at trickery*, and suspicious in their dealings. These bad *qualities they* may have acquired from the number of low whites

that are among them. They seem destitute of any of the higher feelings, such as gratitude, tenderness, honour, delicacy, &c. They are extremely indolent and dirty, disgusting in their habits, and carry on the infamous practice of traffic in women, which even the highest chiefs are said to be engaged in, openly and without shame. The vice of drunkenness does not exist among them to any degree, and it is not a little astonishing that the bad example set them should not have been more followed. They are extremely proud and resentful of any insult, to avenge which the whole tribe usually unites. As an instance of this, we may cite the conduct of Ko-towa-towa, whose hospitality to one of our parties has been recorded. At the invitation of the gentlemen who had been indebted to him for attentions, he visited them at Tibbey's, when an untoward circumstance occurred, which had well nigh ended in an open affront. As they were seated in the porch of Tibbey's house, one of their thoughtless visitors, by way of affording amusement to the company, played off upon Ko-towatowa a boyish trick, by burning him on the nose with a cigar. This produced great anger in the chief, who would have at once punished the rudeness, but through the timely interference of the by-standers he became appeased, but required some atonement for the insult offered him; a half-dollar was given him, but he said he would accept only half, as he did not want to be paid for it, but merely desired a token that it had been atoned for. In the opinion of all, he rose much above the silly trifler who had been the perpetrator of the joke.

The natives are peculiarly sensible to any insult of this kind. A short time before our arrival, a mischievous white boy, staying with our consul, had placed a small brass kettle on the head of an old chief, which caused some amusement to the by-standers. The chief at the time did not show any signs of being offended. He had always been well disposed and peaceable towards the whites, and was known to have a strong partiality towards the family. On going to the pa, however, he mentioned the circumstance to his tribe, which produced a great excitement among them. They assembled and advanced in a body to the dwelling, to require satisfaction for the affront offered, and although they were told and convinced it was done in playfulness, they required atonement; and this being refused, they took all the clothes that were hanging to dry on the lines, and everything they could find about the premises. They even took the shoes and clothes off a sick boy, who was lying in the veranda. Their rapacity was only stopped by the courage of the mistress of the house, who, being unable to check their proceedings by remonstrances, threw a billet of wood at their principal chief. This bold act astonished him, and from admiration of her courage caused them at once to desist, saying she had a big heart, which is their figurative term for a courageous person. Insults given in this accidental way, have been known to occasion the most deadly feuds. They have, however, great command of temper when insulted. As an instance of this, an anecdote was related to me of some chiefs having become offended at the Episcopal missionaries, in consequence of some transaction respecting lands, in which

conceived themselves wronged. The offended parties proceeded to Pahia in order to demand redress; but on their arrival there, the missionaries were absent, and although the whole property was at their mercy, there being no one on the premises but females, they did not harm anything, and declined to enter into any explanation until they had seen the missionaries. Taking their seats quietly at the gate, they awaited their return, which did not take place for some hours after, when they demanded an explanation of the supposed wrong, and atonement for it; and being satisfied, they departed without any molestation or injury whatever. It will, in all probability, be said that such patience was in consequence of the parties complained of being missionaries; but that could not well have been the case, for they are by no means popular with the natives, and the reason is, that the missionaries show very little regard for their own countrymen, which, in the eyes of a New Zealander, is a great crime.

From all I could gather, I am inclined to believe them an observant people, and that they would become an industrious one, were it less easy to provide themselves with the necessaries of life. They show much energy of character in their warlike pursuits, on which their whole minds seem yet to dwell. The spontaneous productions of their soil furnish them so easily with all that is required for their food and clothing, that there is no sufficient incitement to industry.

The New Zealanders are above the middle size, well formed and athletic; they vary in colour from a chesnut to a light copper; they have black hair, very thick and curly, which many suffer to grow long, while others crop it close. I saw few with whiskers, and their beards were light. The forehead is high, sloping backwards; the nose frequently aquiline and prominent; the eyes are black and piercing, but rather small; the tattooing gives a hardness of outline to the chiefs that is not so observable in the common people; they want, however, the softness of the rest of the Polynesian family, of which they are a part, not having the full muscles, or soft contour of face, which we had hitherto observed among the groups we visited. They are as indolent as the other cognate races, but more capable of undergoing fatigue.

The following is one of their traditions respecting their origin. The first natives came from Hawaiki, situated towards the east, in several canoes, and the names of some of the principal men were Tanepepeke, Tanewitika, Taneweka, Rongokako, Kopaia, Kornanpoko: the canoes in which they came were called Kotahinui, Kotearawa, Kohorouta, Takitima. They settled first at Kawia, on the western coast; then near Maketu, Turanga, and Ahuriri, at the east cape. The natives, it may be as well to remark, say that this story is all nonsense, yet the similarity of the foregoing names with those of the people of Savaii, in the Samoan Group, is striking. This, connected with the story, which we shall hereafter quote, of the introduction of the kumara in canoes, taken together, *would appear* to afford very strong reason for the conjecture that *they* were derived from the same source.

The trade in native curiosities is not quite so great as it used to be, particularly in tattooed heads. So great at one time was the traffic in the latter article, between New Zealand and Sydney, that in 1831 it was prohibited by law. In Governor Darling's administration of the colony, the chief Shougi is supposed to have made large sums by it, and there are some persons who, in part, impute his wars to his desire of gain; for, having been in England, he became acquainted with the value set upon them, and the demand for them. It is generally thought that many of the heads thus sold have been prepared by the white runaway convicts, who have learned the mode of doing this from the natives. They are still to be obtained, though great precaution is used in disposing of them. The penalty for selling them is fifty guineas.

The New Zealanders are still cannibals, although in the districts where the missionaries reside, they have done much to put a stop to this practice. After the arrival of our gentlemen, an instance occurred of a chief having killed a boy about fourteen years of age, as a medicine for his son, who was sick; and as this prescription did not effect a cure, a girl about the same age was to be served up, but the timely interference of the missionaries prevented it.

The present condition of the New Zealanders is inferior to that of some of the other Polynesian nations. There is, as in other places, little or no occasion for labour; the industry of a few weeks is all that is needed to supply them with food for the year; their traffic in pigs and other supplies to whalers and traders is quite sufficient to procure their necessary supply of clothing. It is said their moral condition has much improved of late, and that they are becoming sensible of the advantages of civilized life. In the former direction there is still great room for improvement, and the latter, I should think, as yet far above their ideas of honesty and of the obligations they owe to those about them. Perhaps those who have become somewhat attached to the Christian religion may be a little improved, but the only instance that we can recall to our recollection is that of the chief Ko-towatowa. The chiefs, however, in general, show a growing disposition to acquire comforts about their dwellings, and in comparison with the other natives, are almost cleanly in their persons. Industry is also making progress in the cultivation of their plantations. If I could believe it possible that the dwellings of the lower classes of the people had ever been more filthy, or their persons less cleanly, I would more readily credit that some improvement had taken place. Numbers are said to be able to read and write their own language, having been taught by the missionaries, and then have afterwards been known to take a pride in instructing others, and to display a great eagerness in the acquisition of further knowledge; but they are far, very far behind, in the rudiments of education, the natives of other groups where the missionaries have been established, although, as respects natural capacity, they may probably rank higher.

There is much that is worthy of notice in the missionary operations here. They seem to have pursued a different course from that followed at the other groups, and appear to begin by teaching the

useful arts, and setting an example of industry. This has given rise to much remark. The missionaries of the Episcopal Church appear to keep aloof from the natives, and an air of stiffness and pride, unbecoming a missionary in most minds, seems to prevail. They have a chapel at Pahia and one at Tipoona, but very few persons attend; their native and Sunday schools have also very few scholars; and they appear to be doing but little in making converts. Most of the natives, however, have morning and evening prayers, but their practices and character show anything but a reform in their lives. The missionaries hold large tracts of land, and about the Bay of Islands the Church mission (Episcopal) may be said to have the entire control of the property. At the missionary establishment at Pahia they have a printing-press, and have printed some parts of the Scriptures. They are now printing a New Zealand grammar. In the native traditions, there appears to be some idea of a creation, having a general resemblance to that of the other nations of the Polynesian groups. The first god was Maui, who fished up the earth out of the sun; afterwards a great flood came, which covered the land, and then the waters were dried up by another god, who set fire to the forest. From the accounts and observations of all, it may be safely asserted that the natives have no religion. Some few apparently follow the form of it, and call themselves professing Christians; but the majority, or greater number of the natives, have none, either Christian or pagan. When undergoing tuition by the missionaries, they are said frequently to stop and ask for a present for having said their hymn; and it is said, I know not with what truth, that the Catholic missionaries have been in the habit of giving them some small token in the shape of crosses, which the natives look upon as a sort of compensation.

At Kororarika, as has been stated, there is a Roman Catholic chapel, and it is the residence now of the bishop of the South Sea Catholic mission. Some singular anecdotes are related of the natives, of their first joining one denomination and then another, receiving little articles as presents from each; indeed, it is said that there are few of them but conceive they ought to be paid for saying their prayers, or attending mass. At Hokianga there is also a Methodist or Wesleyan mission, which is generally considered the most active, and is doing a great deal of good.

The native pas are generally scenes of revelry and debauchery. My crew soon got tired of their visits to that of Pomare, and complained much of the dishonesty of the natives. Pomare and his suite paid the ship a visit a few days after our arrival, for the purpose of obtaining his quota of presents. I received him and all his retinue with kindness, and made him several presents, among which was a fowling-piece; but he had, in going round the ship, seen one of Hall's patent rifles, that loaded at the breech; and nothing would satisfy him but to exchange the gun I had given him for one of these. He surprised me by at once comprehending its facility of use, and its excellent manufacture. After a great deal of importunity, I consented to the exchange, but found that he was *inclined, after* having once succeeded, to beg everything that struck

CLUB DANCE.

his fancy. In this he was followed by the other chiefs, among the rest by Hoia, his brother. To the latter, I gave an old cocked hat, which pleased him exceedingly, and I was not a little amused to see him wearing it, and dressed in a tight coat and vest, with bare legs, exhibiting one of the most ridiculous figures imaginable, although, in his own opinion, the beau-ideal of elegance. Pomare went about the ship begging for military caps with gold bands, and was extremely importunate until he found that nothing more could be obtained. I by no means admired his appearance on this visit; for, although of good proportions, tall, and well made, he is awkward and parrot-toed. His height and manner of walking make this defect more apparent, and he wants that dignity which is sometimes seen in a savage of our country. The New Zealanders, however, struck us as having a closer resemblance to our North American Indians than any others we had yet met with among the Polynesian nations. I was surprised to see how little respect was paid to the orders of Pomare by his followers, and was told that there is little authority acknowledged by those who are free. His slaves and wives are those who must sustain the burden of his wrath; their lives are at his disposal, and with them his will is law; they seem, however, to be treated kindly. Pomare is said to be entirely under the control of his favourite wife, of whom I have heretofore spoken. She is a far more respectable person than her husband, and was the most intelligent native I met with.

Wishing to see their war-dances, I requested Pomare to gratify us with an exhibition, which he consented to do. The ground chosen was the hill-side of Mr. Clendon, our consul's place, where between three and four hundred natives, with their wives and children, assembled. Pomare divided the men into three parties, or squads, and stationed these at some distance from each other. Shortly after this was done, I received a message from him, to say that they were all hungry, and wanted me to treat them to something to eat. This was refused until they had finished their dance, and much delay took place in consequence. Pomare and his warriors were at first immovable; but they in a short time determined they would unite on the hill-top, which was accordingly ordered, although I was told they were too hungry to dance well. Here they arranged themselves in a solid column, and began stamping, shouting, jumping, and shaking their guns, clubs, and paddles in the air, with violent gesticulations, to a sort of savage time. A more grotesque group cannot well be imagined; dressed, half dressed, or entirely naked. After much preliminary action, they all set off, with a frantic shout, at full speed in a war-charge, which not only put to flight all the animals that were feeding in the neighbourhood, but startled the spectators. After running about two hundred and fifty yards, they fired their guns and halted, with another shout. They then returned in the same manner, and stopped before us, a truly savage multitude, wrought up to apparent frenzy, and exhibiting all the modes practised of maiming and killing their enemies, until they became exhausted, and lay down on the ground like tired dogs, panting for breath. One of the chiefs

then took an old broken dragoon-sword, and began running to and fro before us, flourishing it, and at the same time delivering a speech at the top of his voice. The speech, as interpreted to me, ran thus: "You are welcome, you are our friends, and we are glad to see you," frequently repeated. After three or four had shown off in this way, they determined they must have something to eat, saying that I had promised them rice and sugar, and they ought to have it. Mr. Clendon, however, persuaded them to give one of their feast-dances. The performers consisted of about fifteen old, and as many young persons, whom they arranged in close order. The young girls laid aside a part of their dress to exhibit their forms to more advantage, and they commenced a kind of recitative, accompanied by all manner of gesticulations, with a sort of guttural husk for a chorus. It was not necessary to understand their language to comprehend their meaning; and it is unnecessary to add, that their tastes did not appear very refined, but were similar to what we have constantly observed among the heathen nations of Polynesia. Their impatience now became ungovernable, and hearing that the rice and sugar were being served out, they retreated precipitately down the hill, where they all set-to most heartily, with their wives and children, to devour the food. This to me was the most entertaining part of the exhibition. They did not appear selfish towards each other; the children were taken care of, and all seemed to enjoy themselves. I received many thanks in passing among them, and their countenances betokened contentment. Although they were clothed for the occasion in their best, they exhibited but a squalid and dirty appearance, both in their dress and persons.

No native music was heard by any of our officers, and they seem to have little or none in their composition. In their attempts to sing the hymns, chants, or old psalm-tunes, they entirely failed to produce anything like a resemblance. The pitch of their voices when speaking, is higher than that of Europeans, (the French excepted) and that of the women was not a tone above, which gives additional coarseness to their character. Both sexes have but little intonation in conversation, and there are no tones heard which would indicate sympathy of feeling.

Chatham Island, which will probably soon be connected with the English colony of New Zealand, is now considered as a nest of rogues, and several vessels have been robbed there. Its inhabitants have a tradition that they are derived from New Zealand, whence their progenitors came about a century since, having been driven off in their canoes by a storm, and that on landing they had changed their language. The change consisted in reversing the ordinary construction of their phrases, and the syllables of words, as, for Hare-mai, Mai-hare; and for Paika, Ka-pai. The natives of Chatham Island are not tattooed, do not wear clothing, and are said to be more intelligent than their progenitors. They were conquered a few years ago by a party of New Zealanders from Port Nicholson, who had been driven out by the Kapiti tribes, under the celebrated Rauparaka.

The climate of New Zealand is extremely changeable; but although it may be considered as the cause of many diseases among the natives, it is, perhaps, the best suited to a European constitution of any in the South Seas. A large quantity of rain falls during the year, but I was unable to obtain any record of its exact amount. The temperature at Kororarika, during the months of February and March, varied from 53° to 78°, and the mean was 64.2°. In the sun the thermometer rose as high as 110°. The principal prevailing winds are from the south-east and west; the former are frequently in squalls, and attended with rain: May and June are the rainy months.

Warm days are often succeeded by cold nights, which give rise to pectoral diseases among the natives, many of whom are affected by phthisis, or swept off by rapid consumptions. They are also liable to rheumatism and pleurisy. European and American residents, who enjoy better food and clothing, and inhabit more comfortable dwellings, are exempt from these complaints. Measles, hooping-cough, and other epidemics, have been introduced from foreign vessels. While we lay at the Bay of Islands, the influenza prevailed on shore and was communicated to our crew. The venereal disease, propagated by their licentious habits of life, and unchecked by medicine, is rapidly reducing the numbers of the natives.

The greater part of the soil of the portion of New Zealand which fell under our observation is too sterile to be profitably employed in agriculture. It consists, in general, of an obdurate yellow loam, capable of bearing little else, after it is cleared of trees and brushwood, than the fern (Pteris esculenta). Where the soil is volcanic, however, it is comparatively fertile; but this description of ground is rare.

Wheat and other grains are raised, and the fruits and vegetables of temperate climates succeed well. The hills are almost bare of vegetation; for after the ground is cleared, the heavy falls of rain sweep the soil from them into the valleys, and wear the hill-sides into gulleys. In this manner patches of good lands are formed in them, which, however, rarely exceed fifteen or twenty acres in extent. The only continuous level tract of as much as a hundred acres, is on the farm of Mr. Clendon, on Manawa Bay. The sterility of the soil is not the only obstacle the agriculturist has to contend with. The fern, of which we have spoken, springs up the moment the forest is removed, and covers the land with a dense vegetation. Ploughing is not sufficient to extirpate it, for it will spring again from the severed roots, and choke the grain. It can only be completely eradicated by removing it by hand and burning it. The ashes are then spread upon the ground, and are found to be a good manure. In this manner the sons of Mr. Williams, the missionary at Pahia, are endeavouring to bring a farm they possess into cultivation. Natives are employed in the labour, and they have in this way cleared several acres.

The fern, from its size and strength, is supposed to indicate a fertile soil; but this is not the fact, for I have seen nearly a thousand

acres in a body covered with a growth of it six feet in height, where the ground was deemed fit for no purpose but to furnish brick-clay. So densely do the ferns grow, that it is impossible to force a way through them, and the only mode of traversing the country where they abound, is by following the native paths; these pursue the high ground and ridges, and have branches which lead to the neighbouring cultivated spots. The moment the culture of the land is neglected, the fern again makes its appearance.

The clayey soils afford only a scanty growth of grass, which is scarcely fit for pasture, and indeed there appear to be no native grasses. In the more fertile soils, red clover, according to Mr. Brackenridge, does well; and he believes that white clover would succeed on the hills, which are now bare. The climate is favourable to the growth of the foreign grasses.

After the fern has been burnt and the ashes spread, a crop of wheat is raised, and the land is laid down in grass. To give an idea of the produce of land near the Bay of Islands, we may cite the instance of Captain Wright's farm, which is eligibly situated, and is considered as possessing a fertile soil. He had twenty acres in wheat, whose average product was only fourteen bushels per acre.

Among the foreign fruits which have been introduced, are apples, peaches, and grapes. The latter grow best in the volcanic soils, but the climate is considered too moist to permit them to attain perfection. The peaches are fine, but the propensity of the natives to pluck them before they are ripe prevents them from attaining their full flavour. Cape gooseberries are plentiful, but the common description of that fruit and the currant have not been introduced. Late writers have given marvellous accounts of the growth of the fruit-trees of temperate climates in New Zealand; but these may be set down as exaggerations calculated to mislead, and intended to subserve speculation. The success of Captain Wright, however, in raising fruit and vegetables, has been great.

Among the native vegetables is the sweet potato, which they call kumara: it is plentiful.

The missionaries stated that the natives have a remarkable tradition in relation to this root, namely, that it was first brought to the island in canoes of a different construction from their own, and composed of pieces of wood sewed together.

Cook left the common potato, which has been cultivated ever since his visit, and is now plentiful.

The native hemp (Phormium tenax) is a most useful plant; it grows in large quantities, and is applied by them to many purposes, besides being a principal article of foreign trade. It is an important material in the construction of their houses, for which purpose it is made into cords, that are also employed for more common uses. It is manufactured into fine fishing-lines, which are much prized at Sydney for their strength and beauty.

The manufacture of the hemp is altogether performed by the women, who cut it, and after it has been dried a little, divide it into strips of about an inch in width. The outer green fibres are then scraped off with a piece of glass, or a sharp shell. The inner fibres

being thus exposed are easily separated, and the greatest care is taken to keep all the fibres as straight as possible, both in this and the following operations. To this precaution the great strength of the cordage the natives make of it, is owing. After the fibres are separated they are washed, rubbed, and laid in the sun to bleach.

The vegetation of New Zealand is of a fresher and deeper green than that of New Holland, and has some resemblance to that of Terra del Fuego. According to the missionaries, the ridges, and indeed the greater part of the northern island, are destitute of trees; and the woods, which are confined to the valleys, are for the most part in detached spots. The western part of this island contains more actual forests than the eastern.

It was remarked by our botanists that trees of genera which in other countries grow in the more barren soils, are found in New Zealand in those which are fertile. This is, in particular, the case with the pine tribe. It also appeared from the position of isolated trees, and the quantity of Kaurie-gum found embedded in the soil, that forests had formerly been more gradually spread over the face of the country, than they are at present.

The gum which has just been spoken of is still produced by the Kaurie pine, which is the finest of the timber trees of New Zealand. The greatest portion of that which is shipped from the island is dug from the ground. Small quantities of the latter description have been purchased by our countrymen and shipped to the United States, where it was manufactured into a varnish. This was of a good quality, and was afterwards sent to New South Wales and New Zealand, where it is sold for copal varnish.

The Kaurie and Kaikotia pines yield spars which for large ships are not surpassed by any in the world. The trees are generally large and are easily brought to the coast by means of the numerous streams.

The natives use these trees in building their canoes, which are dug out of a single log. They have no outrigger, and are in consequence liable to accident from want of stability. Great ingenuity is shown in repairing them. We saw a war-canoe which was sufficiently large to be manned by fifty men; it had a prow extended ten feet upwards, which was elaborately carved and decked with tufts of feathers. The paddles have spoon-shaped blades, by which the canoes are propelled with great swiftness.

No native quadrupeds were found wild in New Zealand. Cattle have been introduced, and thrive. Those which are imported require to be fed, but those raised in the country can provide for themselves, and grow fat by browsing.

Among the birds are the native nightingale and the tui, also known under the sobriquet of the parson-bird. The latter is a great favourite with the natives.

I saw it only in a cage, and its note did not strike me as pleasing, but several of our gentlemen saw and heard it in the woods; they describe its note as rather louder than that of the bird called by the Samoans "poe," and it is at times said to utter a cry resembling the sound of a trumpet.

The domestic fowl does not appear to have been known before this island was visited by white men.

The great staple articles of trade are flax, spars, and wheat; potatoes and gum are also exported; but the whale-fishery is of more value at present to foreigners than all the productions of the soil. This is carried on from the shores by parties of New Zealanders and foreigners.

Many spars are now exported to England, which are obtained at the trifling cost of a few blankets and muskets. Besides guns and blankets, gunpowder, lead, coarse blue and white cottons, whiskey, rice, sugar, and molasses are the articles most in request. These now bring enormous prices, in consequence of the demand caused by the number of immigrants; but the effect of these prices is to render labour proportionably dear.

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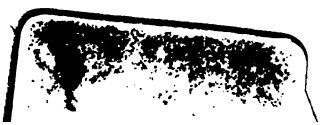
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